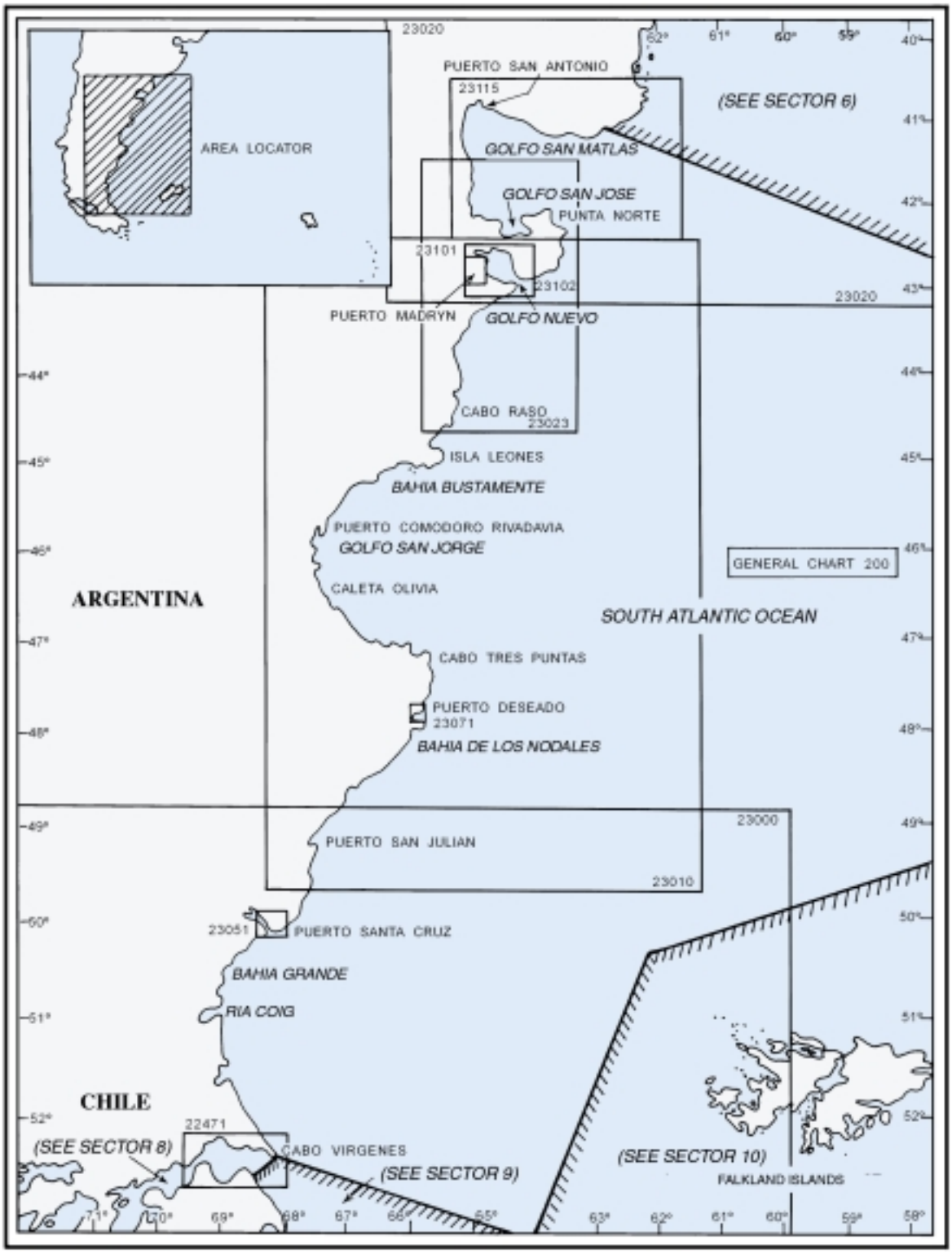
Table of Contents



Additional Chart Coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 7 — CHART INFORMATION

Table of Contents

SECTOR 7

COAST OF ARGENTINA—RIO NEGRO TO CABO VIRGENES

Plan.—This sector describes the coast of Argentina from Rio Negro S to Cabo Virgenes.

General Remarks

7.1 Winds—Weather.—Between 50˚W and the coast there is a decrease in the W prevalence. Wind in the 5˚ ocean square adjoining Argentina the annual winds are of almost equal frequency from the 8 principal compass points, except the N and NW directions which are slightly most predominant.

South of the 40th parallel to latitude 0˚, some 60 to 70 percent of the winds have a W component, while 10 to 15 percent or more of the remaining winds are from the N, and 6 to 10 percent or more from the S.

South of the Rio Negro Valley the prevailing wind circulation on the coast is W, but there, as over the neighboring sea, the winds may blow from any point between SW and NW. At the E entrance of the Estrecho De Magallanes, W is the most frequent direction, but it changes more to NW late in winter.

Southwest winds tend to bring fair and NW winds, cloudy weather, with snow or rain. Summer is the stormiest season of the year, as it is at some other high latitude points. For example, at Port Gallegos, N of the Strait, and at Port Madryn, much farther N, the worst weather is that of summer, with heavy gales of greater frequency and duration than even in the middle of winter.

A vessel S of latitude 40˚S should keep a good lookout for icebergs and loose ice. The mean ice limit for this region trends NE from Cabo De Hornos, through latitude 50˚S, longitude 52˚W, as far as latitude 40˚S, longitude 35˚W.

However, in the spring, icebergs are met, NW of this limit, as far as latitude 45˚S, longitude 60˚W.

Numerous icebergs and extensive icefields have been seen, at different times, in the space SE of the above limit.

The part of the ocean lying within the belt of W winds, as in all similar latitudes, is one of much storminess.

This is a region of passing cyclones, and it lies along the extensive slope of pressure that normally falls toward the pole; both of these circumstances contribute to the probabilities of high wind occurrence.

Along the stretch of coast lying between the S valley of the Rio de la Plata and the tip of Tierra del Fuego there is a 20˚ range in mean annual temperature, or from 16˚C at Buenos Aires to 5˚C at Isla Ano Nuevo.

The temperature change however between these points is far from constant. From Buenos Aires to Mar del Plata there is a drop to 13˚C. There is a rise to 16˚C at Puerto Belgrano (Bahia Blanca) and Patagones. There is then a rapid fall to 8˚C at San Martin, approximately at 43˚S latitude.

Near 48˚ latitude, at Deseado, below the projection of Cabo Blanco, there is another local rise to 10˚C.

At Punta Arenas, in the Estrecho De Magallanes, the mean falls to 7˚C.

The highest and lowest monthly mean temperatures usually occur in January and July, though sometimes June or August has as low an average as July. Along the continental strip the January temperatures show a range from 2˚C at Puerto Belgrano to 13˚C at Puerto Gallegos, 11˚C at Punta Arenas in the strait, and 8˚C at Isla Ano Nuevo.

The winter means range from 8˚C at Puerto Belgrano in June and July to 1˚C at Puerto Gallegos in the same months.

At Carmen de Patagones and San Martin the highest and lowest monthly means show a decided difference for stations that are only about 2˚ in latitude apart. The January mean at Carmine de Pathogens is 23˚C and 15˚C at San Martin while the June and July mean at the two stations is 8˚C and 1˚C, respectively.

Extreme temperatures of 38˚C or higher occur in summer at most points along the N and middle coastlines of Argentina, and as far S as Deseado a maximum of 39˚C has been recorded in January.

Golfo San Matias

7.2 Golfo San Matias (41˚30'S., 64˚00'W.), about 64 miles wide between Bermeja, 15 miles WSW of the mouth of the Rio Negro, and Punta Norte, recedes more than 80 miles and is very deep in its S and W parts. A heavy sea is quickly raised in the gulf by winds from any direction.

Shallows, quite often can be located by their distinctive color contrast to the usual sea blue characteristics in this gulf.

Tides—Currents.—Vessels proceeding across the entrance of Golfo San Matias may experience tidal currents setting them towards or away from the shore. Great caution is necessary.

The tidal current comes up the coast from the S and rounds Peninsula Valdes, resulting in a current which has a velocity of 2 to 4 knots. At Punta Norte, the current causes violent and dangerous overfalls.

The current divides here, one branch heading WSW and the other branch continuing to the NNW.

On the S side of the gulf the current divides into two branches. One enters Golfo San Jose with velocities of up to 8 knots between the entrance points, and the other sets along the shore with a velocity of 3 knots.

The current which sets N along the W shore of the bay diminishes in velocity until in the vicinity of Puerto San Antonio, when it increases in strength and attains a velocity of 3 knots.

The current which sets NNW from Punta Norte sets toward the N shore of the bay with variable velocities of 1.5 to 2 knots, and in front of Bahia Rosas it branches to the E and W and follows the shore in both cases. Tide rips indicate the position where the current separates and usually extends about 2 miles from the coast in a N and S direction.

The ebb current runs contrary to the flood with about the same velocity.

At the center of the gulf the current is 2 to 3 knots, heading NW on the flood and ESE on the ebb.

Caution.—An anchorage area is located off the SW shore of the gulf in the vicinity of 42˚00'S, 65˚00'W. It is used by VLCC type vessels for lightering operations.

7.3 Punta Bermeja (41˚09'S., 63˚04'W.) is an excellent point to make when approaching Rio Negro, Puerto San Blas, Golfo San Jose, or Puerto San Antonio from the S. The land is about 61m high in the vicinity of the point. A 15.2m shoal has been reported about 4.7 miles from Bermeja Point, bearing 229˚; breakers extending perpendicularly to the coast have been observed.

Near the head are hummocks and irregular hills nearly covered with vegetation. At the NE part of these are two very small peaks which show distinctly when seen from the E.

They stand nearly over two peculiar cliffs, which so resemble the Dos Hermanas, located to the W of Punta Bermeja that they are known as Falsas Hermanas.

Promontorio Belen (41˚09'S., 63˚51'W.) lies about 36 miles W of Punta Bermeja. Sandhills extend W from Punta Bermeja to Promontorio Belem, attaining elevations from 70 to 100m and about 150m in the vicinity of Promontorio Belen.

There is a break in these sandhills near **Bahia Rosas** (41˚09'S., 63˚23'W.), a slight indentation from 10 to 15 miles W of Punta Bermeja.

From Promontorio Belen to Punta Villarino, 50 miles WNW, the coast is cliffy for the first 7 miles, but then becomes low.

Caleta de los Loros, a small drying bay, is entered E of **Punta Mejillon** (41˚01'S., 64˚08'W.), which lies 13 miles WNW of Promontorio Belen.

From Punta Mejillon to Barranca Final, 14 miles WNW, the coast is steep. From Barranca Final to Punta Villarino, a distance of 22 miles, the land is low. A few sand hills, partially covered with grass and stunted bushes, rise about the shingle or sandy beach.

7.4 Puerto San Antonio Este (40˚48'S., 64˚53'W.) is sheltered from all winds, but its entrance is open to winds from the SE, and for this reason vessels should not approach the entrance unless there is sufficient tide to enable them to reach the port.

Tides—Currents.—Winds have very little influence on the times and amplitudes of the tides.

Tidal currents to the S of the entrance are weak, no more than 1 knot. The maximum velocity of the current to the W of Banco Palisa is 1.5 knots to the NE. Current velocity increases rapidly near Banco Lobos to about 4 knots in the narrows formed by Punta Villarino and Banco Reparo.

The velocity of the flood current in the channel close NE of Punta Villarino is a maximum of 2 knots, that of the ebb 1.5 knots. The tidal range is 9m.

Depths—Limitations.—The least depth in the channel over the bar is 2.4m, but inside the depths are very irregular and vary between about 5.9m to more than 32.9m.

On each side of the entrance is a bank, partly dry at LW and steep-to at the edges.

Banco Lobos, on the E side, extends S about 5 miles from Punta Villarino, dries over 3.5 miles from the shore, and is steep-to on its W and S sides.

The sea breaks with great violence over the S part of this bank about 2 hours before LW. Banco Reparo, a large portion of which uncovers, is located on the W side of the entrance and extends about 7 miles SSW from Punta Delgado, the W entrance point to the port. Banco Palisa, which dries up to 1.5m in places, lies in the entrance between the S extremities of Bancos Lobos and Reparo.

The pier is built on the S side of the entrance about 1.7 miles ENE of Punta Villarino. The pier is L-shaped and extends NW from the shore. The mooring face has a length of 200m and a depth of 9m alongside. Lights are shown from the end of the pier and from the elbow of the pier.

Aspect.—Punta Villarino is about 34m in height and is easily recognized by its bare sand dunes, which are higher than the rest of the peninsula of which the point is a part.

Cerro Direccion, with three small hummocks close together on its summit, and Cerro Fuerte Argentino, 94m high, gray and resembling a fortification on the NW shore of the Golfo San Matias, will be seen before any of the low land can be made out.

Approaching from the S, Cerro Fuerte Argentino is seen sooner than Cerro Direccion; if from the E, the reverse. Cerro Nipple, 183m high and the highest land in its vicinity, is on a range of hills N of the port with a small hummock on its summit.

Three sets of range lights are available to guide vessels into the harbor.

Pilotage.—Pilotage is compulsory and must be requested from Puerto Madryn (see paragraph 7.15) at least 48 hours in advance.

Anchorage.—The outer anchorage is good, in 9.1 to 27.4m between the end of Banco Lobos and Cerro Fuerte Argentino, as well as to the S and E of the bank. The bottom is quite clear, either a fine sand or a soft, greenish, sandy, mud.

The shelter is good, except with SE winds which do not often blow, and usually are not strong. A rock, with a depth of less than 1.8m, lies 2 miles offshore about 3.5 miles NE of Cerro Fuerte Argentino.

Anchorage can be taken in the inner harbor in 9.1 or 11m, soft sand and shell bottom. The anchorage is sheltered from all winds except those from the SW and WNW.

Almost the entire inner portion of the port is filled with banks, the greater part of which are covered at HW. Some of the banks show more than 6.1m above water at low tide.

Caution.—In approaching the port, vessels should steer for Cerro Direccion, bearing 310˚, in order to avoid the S extremity of Banco Lobos.

When following the outer channel, vessels should guard against the action of the tidal currents, as the flood sets W and the ebb E. The ebb current sometimes attains a velocity of more than 4 knots in the channel.

Local assistance is advisable due to the shifting nature of the banks.

A night approach is not recommended. Some radar sets will not receive a good return from Punta Villarino.

7.5 From Puerto San Antonio, the shore trends in a general S direction for about 78 miles. All this shore is bold, exposed, and steep-to.

From **Punta Sierra** (41˚31'S., 64˚59'W.), low and not easily recognized, the coast S is chiefly cliffy, but with intervals of lowland. The cliffs, about 30 to 61m high and nearly perpendicular, are composed of loose earth mixed with shingle and vast quantities of fossil shells. The shore is sandy and fringed by LW rocks.

There are no known dangers more than 1 mile offshore except the rocky reef, extending about 1.5 miles off, on which stands Islote Lobos, about 6 miles NNW of Punta Sierra, and the water is deep to within a few miles of the shore.

Pico Rivadavia (41˚37'S., 65˚21'W.), about 518m high and the highest peak of Sierras de San Antonio, lies about 31 miles SSW of Cerro Fuerte Argentino. Pico Rivadavia is prominent and visible to 30 miles from seaward.

Punta Pozos (41˚35'S., 65˚00'W.), lying 4 miles S of Punta Sierra, is formed by a low islet lying close offshore. A narrow ridge of stones that dry extends about 0.1 mile E from the islet, and also connects it with the mainland to the W.

Hills, surmounted by rocky cones, stand at the angle formed by the mouth of Arroyo Salado and Punta Pozos. The mouth of Arroyo Salado is reported to give a good radar return.

7.6 Punta Colorada (41˚42'S., 65˚01'W.) lies about 7.5 miles S of Punta Pozos, and extends 0.2 mile from shore. A prominent pelletization plant stands near the head of the peninsula. A jetty projects 0.5 mile from the peninsula.

At its head there are four berthing dolphins and six mooring buoys, and a radial loader, thereby allowing a ship to berth on six headings to wind and sea, W, NW, N, E, SE, or S.

Vessels up to 210m long can be accommodated. Depth at the berth is 12.8m.

It is recommended that the approach be made from the N. range marks are shown from the N face of the loader.

Winds—Weather.—Prevailing winds are from the W, but strong winds frequently blow parallel to the coast from the N and S. Onshore winds, mainly from the SE, also occur.

Tides—Currents.—The water level at high tide is 7.9m and at low tide is 6.7m. The currents are weak and have no effect on the approach to the port or when berthing.

Pilotage.—Pilotage is compulsory, harbor pilots are available and must be requested from Madryn port station at least 72 hours in advance.

Anchorage.—Anchorage can be taken about 1.5 and 3 miles E of the NE extremity of Colorado Point, with good holding ground of sand and mud. The anchorage is sheltered against all winds, except those from the NE to S.

7.7 Punta Porfido (41˚46'S., 65˚00'W.) lies about 4 miles S of Punta Colorada. This point should be given a berth of at least 2 miles.

Several spits extend from the coast, from close N of Punta Porfido S to **Arroyo Verde** (42˚00'S., 65˚05'W.).

Anchorage.—Anchorage can be taken about 0.5 mile offshore in 11m, fine sand, with two storehouses on the beach near the mouth of Arroyo Verde bearing 315˚.

In an emergency, anchorage can be taken about 1 mile offshore anywhere off the W or SW shores of the gulf in 21.9 to 37m, stones, shells, and sand. There are extensive patches of tufa in places.

7.8 The coast from Arroyo Verde to 64˚56'W, is low with a coarse sand and fine shingle beach which covers at HW. Chains of grayish yellow hills, covered with some vegetation, descend to the coast between 64˚56'W, and 64˚40'W. The coast is cliffy from 64˚40'W, then E to Punta Quiroga, the W entrance to Golfo San Jose.

The grayish-yellow cliffs have no vegetation and in some places attain a height of 80m. There are many fissures and deep ravines along this section of coast.

There is an unexploded device located at 41˚56.5'S, 64˚41.6'W, and is a hazard to navigation and fishing operations. It is recommended that vessels give this hazard at least a 2 mile radius.

7.9 Golfo San Jose (42˚14'S., 64˚26'W.) is entered between Puntas Quiroga and Punta Buenos Aires, bold cliffy headlands 30 to 46m high, located 4 miles to the E of Punta Quiroga. Lights are shown from both points.

Shoals extend W for a distance of 1.8 miles from Punta Buenos Aires and E for a distance of 1.4 miles from Punta Quiroga, leaving a passage between them only about 0.5 mile wide, with 3.9m patches and a 5.5m patch in mid-channel.

The passage provides access to the gulf. It runs exactly through the center of the mouth and facilitates entry with the help of radar. Soundings will confirm a vessel's position both day and night without the use of bearings. Local knowledge is essential.

When the wind opposes the tidal current, heavy rips are caused. The entrance has an unpleasant appearance owing to the rocky ledge over which the water ripples so much that a stranger would hardly think it safe to enter. The depths inside the gulf increase rapidly outside the shoal depths near the shore.

There are no difficulties in entering the gulf at high tide and sailing inside it. The entry points are clearly distinguished and the contours are easily detected by radar.

Tides—Currents.—In the entrance to Golfo San Jose and off the N shore of Peninsula Valdes strong tidal races are encountered. Under certain conditions the waves are so strong and so high that small vessels encountering them may suffer loss of control.

The shores of the gulf are bordered by cliffs about 50 to 60m in height. Cerro San Jose, 14 miles SE of Punta Quiroga, is 114m high and the highest point on the shores of the gulf.

7.10 Punta Tehuelche (42˚24'S., 64˚18'W.), about 1.7 miles N of Cerro San Jose, is prominent and marked by a white patch. The top of Cerro El Monticulo, about 6.5 miles E of Cerro San Jose, resembles a truncated cone.

Anchorage.—Fondeadero La Argentina, in the SW corner of Golfo San Jose, affords very good anchorage, sheltered from winds from the S and W, but it is not protected from winds from the NE quadrant which cause a heavy sea.

Vessels anchor in about 23.8 to 32.9m, sand, inside the line of the most salient points near the anchorage.

Fondeadero Pueyrredon, in the SE corner of the gulf, affords anchorage in about 25.6m, fine sand bottom, about 2 miles from shore. The anchorage is good, but the sea is heavy during winds from the NW quadrant.

Fondeadero Sarmiento, situated about 12 miles E of Punta Buenos Aires, in the NE corner of the gulf, is the best anchorage. The quality of the bottom is good and the depths increase gradually from shore. The usual anchorage is in 20m with a bottom of mud, sand, and small shells.

Fondeadero San Roman, on the N side of the gulf, about 5 miles E of Punta Buenos Aires, is sheltered from winds from the NE and NW.

From Punta Buenos Aires to Punta Norte, 29 miles ENE, there is a continuous cliff with an average height of about 61m. This coast is fringed by spits extending about 0.7 mile seaward. Punta Norte is lower than the adjacent cliffs.

Peninsula Valdes

7.11 Punta Norte (42˚04'S., 63˚46'W.) is the N extremity of Peninsula Valdes which does not differ from the pampas of the mainland. The land is sparsely covered with grass and thorny, stunted bushes, and has long stretches of shallow, wave-like depressions which give the impression of the greatest uniformity and barrenness.

Off the E coast of Peninsula Valdes, the tidal races attain a velocity of up to 8 knots depending upon the strength of the wind and tide. Vessels should stay at least 4.5 miles off this coast. It is advised to stay at least 15 miles off this coast to avoid the possibility of being forced into the sometimes violent rips.

A shoal, with a depth of 7.3m, lies 17 miles E of Punta Norte and a shoal, with a depth of 5.7m, was reported to lie 19 miles ESE of Punta Norte. Several shoals have been reported in the vicinity of the former shoal with violent overfalls.

From Punta Norte to Punta Cantor, about 27 miles SSE, the coast is lower than that W of Punta Norte and consists of shingle beach with a few low sand dunes and is fronted by breakers with shallow, irregular depths extending 3 miles offshore.

One should not get closer than 4.5 miles to the coast because there are abrupt changes in depths and violent tidal currents whose speed can attain as much as 8 knots in some places.

A group of houses, with red roofs and white fronts, are situated at Varni, about 3 miles S of Punta Norte and is visible about 8 miles.

There are numerous shoals and reefs offshore of **Punta Bajos** (42˚23'S., 63˚37'W.) lying N and S of the point. Some of them uncover and are dangerous.

Violent choppy seas and eddies are observed 8 miles from the coast and between the parallel of 42˚12'S, and Bajos Point.

A depth of 7.3m, reported, lies about 8 miles NE of Punta Bajos. A depth of about 3.4m lies about 12 miles ENE of the same point.

The entrance to **Caleta Valdes** (42˚30'S., 63˚36'W.) opens up between the narrow and low spit of broken stones projecting from Cantor Point toward the N, about 0.2 mile, and Cero Point, the S end of the stony spit that starts to the N of Bajos Point. The entrance is 130m wide, with depths between 4.3 and 4.9m. The speed of the tides are great during the second and third quarters of the flood and ebb tide.

The tides attain up to 4 knots in almost the entire area and up to 8 knots in the area where choppy waters are observed. During the first and last quarters of the flood and ebb tides, speeds decrease to zero during phase change time.

Tidal currents at the entrance run E and W at 4 to 6 knots. Punta Cantor is 37m high and is the end of a chain of cliffs that extend S to Punta Hercules.

Anchorage.—Anchorage is available off the inlet and 1 mile away in a depth of 10 to 15m, with good holding ground of sand and broken stones.

Caution.—The entrance to Caleta Valdez may change its position by as much as 1 mile after an E gale. Only vessels with local knowledge should enter Caleta Valdez.

A conspicuous wreck lies on the shore about midway between Punta Cantor and Punta Hercules.

7.12 Punta Hercules (42˚37'S., 63˚35'W.), 6 miles S of Punta Cantor, is a white cliff 69m high. When first seen it appears perpendicular, or rather overhanging.

Close N are two perpendicular cliffs of the same height, off which a shoal ledge of limestone extends 2 miles seaward and 3 miles along shore.

Punta Hercules is reported to give a good radar return.

Punta Delgada (42˚46'S., 63˚38'W.), about 9.5 miles SSW of Punta Hercules, is sloping and green and 50m high. A limestone ledge extends 1.5 miles to the S and E.

During winds from the SE quadrant, vessels should avoid a close approach to this point, owing to a strong current. The current pulls parallel to the coast with speeds up to 4 knots.

From Punta Delgada the coast trends WSW for a distance of about 25 miles to Morro Nuevo and consists of steep cliffs of 50 to 59m high and is fringed by reefs for a distance of about 0.5 mile offshore. When seen from the S at a distance over 3 miles this coast has the appearance of a vertical cliff of uniform height.

The only breaks in the line of the cliff are Lobo, Sayago, and Bravo Peaks. Lobo Peak appears to be a double peak when approached from the S.

A conspicuous wreck lies on a spit about 1.7 miles SW of Punta Delgada.

Golfo Nuevo

7.13 Golfo Nuevo (42˚40'S., 64˚30'W.) is entered between steep Morro Nuevo and Punta Ninfas, about 9 miles SW. The gulf is used by submarines for submerged training. It is recommended that merchant vessels avoid the area when the International Code Signal is displayed for this exercise.

Morro Nuevo (42˚51'S., 64˚09'W.) rises to an elevation of 103m and is steep-to. The land to the N of it is sandy and covered in places with grass and bushes of a yellowish-gray color.

Punta Ninfas (42˚57'S., 64˚20'W.) appears as a double point, bare, and of yellowish-red color. Reefs that uncover at LW extend about 0.5 mile NE of the point. The tidal currents run with a velocity of 4 or 5 knots over the reefs and with winds from the W, strong eddies are formed. It is advisable to give this point a berth of 2.5 to 3 miles.

It is reported the entrance to the gulf is easily recognized as the entrance points are well outlined. The entrance is reported to give a good radar return.

Caution is advised as the radar return from the SW entrance will probably be the SE extremity of the headland and not Punta Ninfas.

The E shore of the gulf, from Morro Nuevo NW to Cerro Cormoranes, a rounded and conspicuous 105m high hill, is uniform with high cliffs continuing a short distance beyond Cerro Cormoranes.

Puerto Piramide (42˚36'S., 64˚18'W.) lies between Punta Pardelas, a difficult to identify point lying 9 miles N of Cerro Cormoranes, and Punta Piramide, 2.5 miles NW of Punta Parde las Cerro Piramide, on Punta Piramide, is a pyramidal hill, 64m high, and although lower than other hills in the vicinity, is conspicuous.

Cerro Frigio, 93m high, is located about 0.5 mile NE of Cerro Piramide. The port affords shelter in all but S winds when it is unsafe.

7.14 **Piramide** (42˚35'S., 64˚17'W.) is a small village with a post office and telegraph service. A small mole is located at Piramide.

Two range beacons, for a measured distance course on the N shore of the gulf, in line 095˚, are located at Puerto Piramide.

The front beacon stands on Punta Piramide and the rear beacon on the E shore of Puerto Piramide. The 22m high beacons are equipped with a trapezium shaped screen with a red triangle, point up on the front beacon, point down on the rear.

Anchorage.—The best anchorage is in 11m, sand and mud, with Cerro Piramide bearing 270˚ and a charted, lighted beacon bearing 022˚. Depths closer inshore shallow rapidly and the bottom is rocky.

A measured distance, marked by three pairs of range beacons, is located on the N shore of Golfo Nuevo, WNW of Punta Piramide. The W and central ranges are located, with their front beacons, about 13 and 11 miles, repectively, WNW of Punta Piramides. The E range is located with the front beacon about 10 miles NW of the same point.

The distance between the E and central beacons is about 1,741m, and between the W and central beacons the distance is about 4,434m.

Caution.—Unexploded ordnance is situated on the bottom along the track used for the measured distance.

Puerto Madryn (42˚46'S., 65˚02'W.)

World Port Index No. 13900

7.15 Puerto Madryn, on the W side of Golfo Nuevo, is surrounded by a range of hills about 90m in height.

Between these hills and the shore there are sandy hills, 6 to 12m high, that are thinly covered with brushwood. In several places the shore is formed by white cliffs, 12 to 15m high. The port is one of the safest and best protected natural ports in Argentina.

Winds—Weather.—The prevailing winds blow offshore; E winds are rare and raise little sea. During the day, W winds become strong. In winter, stormy squalls can blow up in as little as 15 minutes.

Tides—Currents.—The average tidal range is over 5m.

Depths—Limitations.—Depths off the coast between Puerto Madryn and Punta Loma, 7 miles ESE, are very irregular. A bank, with depths of less than 9.1m, and a minimum depth of 3m near its extremity, extends 2 miles N from Punta Loma.

A similar bank, with a depth of 6.4m near its extremity, extends 2 miles N from Punta Este. Depths of less than 5.5m extend 1 mile NE of Punta Cuevas.

A steel pier, about 457m in length, is situated at Puerto Madryn. The outer part of the pier has depths of 3.3 to 4.8m alongside. Vessels, with a draft of 6.1m, have berthed at HW along the N side, but are subject to grounding at LW on the S side. A portion of the end of the pier has been destroyed and some steel pilings are covered at HW.

There is a concrete pier about 1,500m long which extends E from the shore about 1.5 miles N of the steel pier. There are two general cargo berths on the S side of the pier, the longest is 130m, with depths alongside of 9.4 to 11.2m.

It can accommodate a vessel with a maximum length of 160m and a maximum draft of 9.1m. An ore berth situated on the N side of the pier can accommodate a vessel 220m long and has depths from 11.2 to 15.2m alongside.

An underwater park 0.2 mile S of Muelle Luis **Piedra Buena** (42˚46'S., 65˚02'W.) limits best seen on the area chart.

Aspect.—Punta Cuevas and Punta Estes, on the S side of the port, with heights of 24 and 22m, respectively, are conspicuous because of their yellowish cliffs. A small red house and a mast stand on the summit of Punta Cuevas. The buildings of the naval station located about 0.3 mile SE of Punta Cuevas are conspicuous.

Punta Loma and Cerro Avanzado, 3.25 and 4.25 miles SE, respectively, of Punta Este, are also conspicuous. Cerro Avanzado is yellowish and round in shape. It is the end of a series of cliffs which advance toward the coast. A black slatted iron skeleton beacon, 15.8m high, stands on its summit.

A conspicuous sewage plant tank stands about 0.6 mile WNW of the steel pier.

Behind the town of Madryn there is a conspicuous white cliff about 136m high.

Del Norte Beacon, a red slated iron skeleton, 15.8m high, stands about 3 miles NNW of the steel pier at Puerto Madryn.

Pantalla Norte Beacon, 7.3m high, consisting of four tripods supporting a white cross on a black background, stands about 2.7 miles N of the steel pier.

Pantalla Sur Beacon, 7.3m high, consisting of four tripods supporting a white cross on a red background, stands about 2 miles NNW of the steel pier. There are several windmills about 2 miles WNW of the town.

Pilotage.—Pilotage is mandatory when using the ore and general cargo pier. The pilot must be requested through the vessel's agents in Buenos Aires at least 72 hours in advance.

Pilots board at the anchorage 1.5 miles SSE of the concrete pier.

Anchorage.—Anchorage can be taken in 18m, mud, about 0.5 mile E of the head of the steel pier. A dangerous wreck lies 0.25 mile SE of the head of the pier. The anchorage is sheltered as E winds are rare and when they do blow they raise little sea, however, W winds become strong during the day and in winter stormy squalls can blow up in 15 minutes.

There is an anchorage in 30 to 40m, 1.5 miles SSE from the head of the concrete pier and a temporary anchorage 0.75 mile NE of the head of the concrete pier.

There is also a good anchorage, in depths of about 14m, 1.25 miles E of Punta Cuevas. A large mooring buoy is moored close SW of this anchorage.

Caution.—A dangerous wreck and a stranded wreck lie 0.25 mile ESE and 0.7 mile SSE, respectively, of the head of the steel pier.

An obstruction lies about 0.4 mile S of the head of the concrete pier.

7.16 The coast from Cerro Avanzado SE to **Punta Cracker** (42˚56'S., 64˚33'W.) presents the aspect of a cliff of uniform height. Check chart for other hazards to navigation.

Fondeadero Cracker (42˚56'S., 64˚29'W.) lies between two white cliffs. Rocky ledges extend about 0.3 mile drying at LW, and are the only dangers in approaching the bay. There is a large ranch in the valley close to the E cliff.

Anchorage.—The depths here decrease very rapidly toward the shore, and it is advisable for vessels to anchor in a depth of about 24m on the line of the charted range beacons.

This anchorage is well protected against winds from the SE and from the W, but offers no protection against winds from other directions. The bottom provides good holding.

Punta Ninfas to Punta Roja

7.17 From Punta Ninfas about 10 miles SW to Punta Leon the coast consists of a high, sheer cliff. There are occasional deep ravines. It is bordered by a spit, 0.1 to 0.15 mile wide, which dries. Punta Leon can be recognized by a small hillock on its top. From E the point appears as the S end of the first land to be seen. From the S it appears as the highest part of the coast.

A sunken wreck is reported to lie about 6.5 miles SW of Punta Ninfas light.

Bahia Engano (43˚20'S., 65˚00'W.) lies between Barranca Norte and Punta Castro, 8.5 miles SSW. The land is low and sandy, with many sand hummocks near the beach. The water is shallower than near the higher land.

To the S of the Rio Chubut there is a range of tableland, about 19.8m high, ending in white chalky looking cliffs. Punta Castro is the NE end of the tableland.

The shore of the bay is fringed with reefs and the 5.5m curve is about 0.3 to 1.2 miles from shore.

Rio Chubut (43˚21'S., 65˚03'W.) is very shallow, but can be entered by small craft with local knowledge. There are always breakers on the bar.

A breakwater extends about 0.4 mile ESE from the N entrance point of the river. The S breakwater is nearly covered at HW. The ebb tidal current is strong.

A group of bathing huts stands about 1.7 miles NNE of the mouth of the river. A conspicuous, 30m high, masonry tower with a red tile roof stands with the huts.

Anchorage.—Anchorage, with good holding ground, can be taken off the entrance to the river. The bottom N of the entrance is fine sand, mud and shingle with a gentle slope. To the S it consists of rock, tosca, or chalk, with some patches of sand. The anchorage is open to winds from the S, E, and NE which raise heavy seas.

After a storm passes there will be high swells which may make a vessel roll heavily, as its head will be into the current which runs almost parallel to the coast.

A dangerous wreck lies about 5 miles NE of the entrance to Rio Chubut.

The climate in this area, while somewhat harsh in the winter, is dry and healthy. The prevailing winds are W and SW. Rain is rare along the coast.

7.18 From Bahia Engano to **Punta Delfin** (43˚32'S., 65˚11'W.) the coast is almost a straight line with an elevation of about 15m. There is a sharp rise to 177m close to the point.

A small conical, conspicuous, hummock, 160m high, with a narrow white stripe from top to bottom, stands on the tableland N of the point.

From Punta Delfin to Punta Lobos, about 16 miles SSW, the coast is high and bold.

Sharp, white cliffs with several ravines extend from close S of Punta Delfin to close S of Punta Lobos, and are visible up to 25 miles away.

Isla Escondida (43˚43'S., 65˚17'W.) is a small island about 80m long in a E to W direction and lies 4.5 miles NNW of Punta Lobos. A spit circles the island and extends E about 150m.

The island is difficult to see because of its small size and low elevation at HW. A ravine on the coast opposite the island is conspicuous.

7.19 **Punta Clara** (43˚58'S., 65˚14'W.), 11 miles SSE of Punta Lobos, is a rocky projection and is fringed by reefs which extend 50 to 183m off the point. It is of a dark-reddish color.

A rock, with 1.2m of water, lies about 2.5 miles NW of Punta Clara. The rock is not visible at HW as it is covered with kelp. Occasionally, the sea breaks over this rock.

Bahia Janssen lies between Punta Clara and Punta Tombo, about 4 miles SE. It is divided into two parts by Punta Tapera.

The N portion is Fondeadero Janssen and the S portion Fondeadero Homero.

A reef, with a depth of 0.3m at its seaward end, extends about 0.7 mile to the NE from Punta Tapera.

Except during calm seas, breakers are reporte to occur on the reef. The reef is covered with kelp which is not visible at HW.

Punta Tombo (44˚02'S., 65˚11'W.) is about 1.5 miles in length and has an average width of about 0.2 mile. Drying reefs extend about 0.15 mile NE of the extremity of the point.

Tide rips extend about 1 mile NE of the point. Heavy overfalls, which are dangerous to small craft, occur over a 9.4m rocky shoal about 2 miles E of Punta Tombo.

From the N, the point appears to be white except for the extremity which is dark rock. From the E or S, the entire point appears dark-colored.

Islote Chato lies about 0.7 mile WNW of Punta Tombo. It is about 73m long in a NE to SW direction and 30m wide, very low and bordered by a spit up to about 0.1 mile wide. A submerged rock, with 3m of water, lies about 0.3 mile E of this islet. The rock breaks at mean tide and tide rips have been seen around it.

Anchorage.—Anchorage can be taken in 18m, good holding ground, either in Fondeadero Janssen or Fondeadero Homero, the former being protected from all winds except those from between NNE and SSE and the latter is protected from all winds except those from between N and SE.

7.20 Punta Atlas (44˚08'S., 65˚13'W.), 6 miles S of Punta Tombo, is about 20m high, sloping gently to a low rocky point. When approached from the E it appears as a rough escarpment of rock. A 4.9m rocky shoal, that often breaks, lies about 1.2 miles SSE of the point.

Anchorage.—Anchorage is available opposite the point with good holding ground in depths of 6.7 to 7.3m, sand and broken stone.

Monte Triste (44˚04'S., 65˚21'W.) is 91m high and conspicuous. Monte Triste is the SE of two similar hills which appear close together when seen from NE and it appears rounded when seen from E.

Bahia Vera (44˚12'S., 65˚15'W.) lies between Punta Atlas and Cabo Raso, about 12 miles S. Arrecife Somoza, about 1.7 miles WSW of Punta Atlas, is the drying portion of the shoal which extends S from the N shore of the bay. It is about 0.4 mile long, NE and SW, and about 0.1 mile wide. The sea always breaks over it.

Anchorage.—Fondeadero Atlas, located at the N end of Bahia Vera, is W of Arrecife Somoza and provides anchorage for small vessels in depths of 4.6 to 5.5m, poor holding ground, with a bottom of sand and shingle. Anchorage can also be taken in 14.6m about 2.5 miles SW of Punta Atlas.

With a strong wind from SE, a sea may be thrown into this section of the bay, over and around Arrecife Somoza, the natural breakwater, from the beginning of the last quarter flood to the end of the first quarter ebb, during which time the reef is covered. The beach, however, does not show the effects of much sea. The tidal currents set through between the reef and the shore with a velocity of about 1 knot.

Several above and below-water rocks, reefs, and islets lie up to 3 miles off of **Punta Loberia** (44˚17'S., 65˚16'W.), which lies 8 miles SSW of Punta Atlas. Breakers and tide rips occur frequently in this area.

Caleta Raso (44˚20'S., 65˚14'W.) lies between Punta Pescadero and Cabo Raso, and is protected from all winds except those from the NNW, N, NE, and E.

Anchorage.—Anchorage can be taken in 11m, good holding ground of shingle, fine sand, and small shells, on the line of range beacons, with the light structure on the Cabo Raso bearing 157˚. Strong currents may be encountered while approaching the anchorage.

7.21 Cabo Raso (44˚20'S., 65˚14'W.), level and rather low, is rock covered with sand and shingle, and there are a few rocks close to its extremity. The coast can easily be identified by radar because of the well defined geographic features.

Bahia Cruz, about 8 miles in width between Cabo Raso and Peninsula Betbeder, is open to winds from the NE and SE and is fringed by rocks.

In this bay there are two coves, Caleta Juan Jose Paso and Puerto Larrea. The latter is a poor anchorage.

Rocas Gutierrez consist of two shoals, 5.5m and 1.8m, about 3.5 miles S of Cabo Raso. These rocks are marked by kelp and breakers. Vessels are cautioned not to pass between the rocks and the shore.

Roca Salaverria, a drying rock, lies about 5 miles E of Rocas Gutierrez.

Rocas Cordova consist of three heads about 8 miles SSW of Cabo Raso. The S most head covers when the tide has risen 0.33 its height. Tide rips occur in this area.

Roca Oyarvide, consisting of two rocky heads, lies about 1 mile NE of Cabo San Jose. This shoal covers when the tide has risen to 0.75 its height.

Breakers occur on the rock during flood tide and seas out of the E. Breakers can be seen on a shoal that lies about 91m E of the S end of the rock.

Roca Clarizza, which lies 1.75 miles N of Cabo San Jose, covers when the tide has risen 0.75 of its height. Breakers occur to the WNW because of shoals in the area.

7.22 Monte San Jose (44˚31'S., 65˚17'W.), located near the SE extremity of Peninsula Betbeder, is 76m high, has a reddish color, and is steep. It is easily recognized. Cabo San Jose, the E extremity of Peninsula Betbeder, is 78m high, sheer granite rock, and conspicuous.

Roca Salaverria, two conical rocks which dry and occasionally break, lies about 7 miles SE of Cabo Raso. An 11m shoal lies about 0.5 mile N of the rock.

When the wind is opposite to the tidal current, there is a line of tide rips between Roca Salaverria and Cabo Raso.

Puerto Santa Elena (44˚32'S., 65˚12'W.) is about 1.7 miles wide between Cerro San Fulgencio, 63m high on its W side, and Punta Acertada, 33m high on the E. Cerro Inciarte, 83m high, and Cerro Serrano, 187m high, are conspicuous rock hills located at the head of the bay.

Arrecife Del Florido, which covers at three-quarters flood, lies about 0.7 mile W of Punta Acertada. Shoal depths of 3 to 5.5m extend about 0.2 mile WNW.

Anchorage.—Anchorage can be taken in the NW corner of the port about 0.4 mile SW of Santa Elena Light in depths of 10 to 11.9m, sand and mud, good holding ground.

Vessels should not anchor near the shore, for when the sea is heavy, the ground swell breaks for some distance off. This anchorage is uncomfortable with winds from the S to SE.

Anchorage can also be taken in 11m, mud and gravel, about 0.5 mile N of Arrecife Del Florido. Good anchorage can also be taken in 14.6m, mud and fine sand, a little over 0.5 mile NNE of Cerro San Fulgencio.

Puerto Concepcion (44˚33'S., 65˚22'W.) lies between Cerro San Fulgencio and Punta Roja, about 2 miles S.

Anchorage can be taken in 11m, sand and shell. It is protected from winds from the NW and SW. The bay is penetrated by the swell which sweeps round the entrance points.

Punta Roja to Cabo Dos Bahias

7.23 Bahia Camarones (44˚45'S., 65˚35'W.) lies between Punta Roja and Cabo Dos Bahias, a distance of 22 miles to the SSW. Its S part is extensive and affords good anchorage. The shore of the bay is rocky as far as Punta Fabian, about 10 miles SW of Punta Roja, where it changes to shingle. About 15 miles

NW of Punta Fabian is Cerro Mesa, flat-topped and conspicuous when seen from the SE.

Bahia San Sebastian (44˚35'S., 65˚26'W.) is nearly 3 miles wide at the entrance between Punta Loberia, on the E, and Punta Guanaco, on the W.

Shoal depths lie within 0.6 mile of Punta Loberia and a 1.8m rock lies 1.25 miles, bearing 140˚ from Punta Guanaco.

The rock will generally break at mean tide level in winds from E, W, and S and in swells. It generally will not break in N winds and is dangerous at HW when it can not be seen.

Punta Loberia, when seen from E or W at HW, appears as several islets. The point should be given a wide berth.

The bay is protected from winds from the NE, through N, to SW. Anchorage can be taken in 16.5m, sand, in the N part of the bay. A 3.7m shoal lies about 4.5 miles SW of Punta Guanaco. A 9.1m shoal of stones lies 2.5 miles further SW.

7.24 Islas Blancas (44˚47'S., 65˚40'W.), at the head of Bahia Camarones, is a rocky island about 27m high, with two lower and smaller ones to the NE. They are covered with guano. Shoals exist in the vicinity of the islands.

A dangerous wreck lies in 11m, about 0.3 mile SE of **Punta Albatross** (44˚48'S., 65˚42'W.). Another obstruction, apparently a wreck, lies in 20.1m about 1 mile SSE of the point. Vessels with a draft greater than 5.5m should not approach within 1.5 miles of Punta Albatross.

Roca Hermelo, with 5.8m of water and which very seldom breaks, lies about 3 miles S of Islas Blancas. A shoal, with 7.6m, lies 0.3 mile W of the rock.

A concrete quay, 30m long with a depth of about 5m alongside, is situated at the town of **Camarones** (44˚48'S., 65˚43'W.).

Tides—Currents.—In Bahia Camarones the tidal currents set along the shore and especially off the headlands, with velocities of 1 to 3 knots. Their direction is about NNE and SSW.

Anchorage.—Good anchorage can be taken in 11m, bottom of sand and mud, S of the town of Camarones. The stay at the anchorage is hazardous due to the waves which enter freely and cause a rolling motion. There is good holding ground 0.5 mile SE of Gaviota Point in a depth of 8.2m, muddy sand. An area where the bottom is fouled by scrap iron is located about 0.5 mile SW of Punta Albatross.

Cabo Dos Bahias to Puerto Comodoro Rivadavia

7.25 Cabo Dos Bahias (44˚55'S., 65˚31'W.) is a rounded, rocky, conspicuous point. Its E extremity ends in a low tongue of rock without a spit. A ledge of rocks extends nearly 0.5 mile N from the cape. Isla Moreno, 1.3 mile NW of the extremity of the cape and 183m offshore, is high on its N side, rocky, and of a dark color.

The coast between Cabo Dos Bahias and Cabo de Matas, 6.75 miles SW, is high, cliffy, and broken.

Isla Arce (45˚00'S., 65˚29'W.), 4.5 miles SSE of Cabo Dos Bahias, is rocky but in many places is covered with grass. It is surrounded by deep water, there being 55m at a distance of 0.5 mile. A rock awash about 0.1 mile E of the N extremity of the island.

The pass, which is about 3 miles wide, between this island and Isla Leones is clear but the current is strong.

Isla Sola, about 3 miles S of Cabo Dos Bahias, is low, black, and difficult to recognize from eastward. There is no passage between this island and the mainland.

Islotes Aguilon del Norte and Aguilon del Sud are two low islets which lie about 4 miles S of Cabo Dos Bahias. Islote Aguilon del Norte is about 0.5 mile from the mainland, but there is no passage between. Islote Aguilon del Sud, when seen from NE, appears as three islets. Both these islets are yellowish in color, with their sides darkened by the action of the sea.

Bahia San Gregorio (45˚01'S., 65˚36'W.) is exposed to winds from the NE to SE and their accompanying seas. This bay is about 1.3 miles wide at the entrance and indents the coast about 1.5 miles.

The tidal currents off the entrance to the bay run strongly NE and WSW; the anchorage should therefore be approached with caution.

The promontory which forms the N side of the bay can easily be identified from the NE by the numerous hillocks on it. The inner port of the bay is fringed by a wide band of kelp.

Anchorage.—Anchorage can be taken in 16m, bottom of sand, shell, and gravel, at the intersection of the lines of the range beacons, two white staffs, in range bearing 294˚, situated at the W side of the bay.

The front staff has a triangular top mark and the rear staff has a rectangular board at its top and another at its middle.

Two white staffs, in range bearing 013˚, are situated on the N side of the bay. The front staff has a cross topmark and stands on a spit. The rear staff has a diamond topmark and stands on a hillock.

The beacons are small and surrounded by shrubs. In the afternoon the sun can make the beacons very difficult to identify with many large rocks reported on the bottom.

Isla Rasa (45˚06'S., 65˚24'W.), lying 11.5 miles SSE of Cabo Dos Bahias and marked by a light, is a gray, rocky island which is separated into two parts at HW by a very narrow channel. It is about 0.4 mile long, 137m wide, and 16.7m high.

A reef, on which there are three rocks that dry, extends about 1.7 miles SE from the SE extremity of the island.

A shoal, with a depth of 25.6m, lies 4.4 miles NNE of Isla Rasa. Tide rips have been reported on all sides of the islet.

7.26 Golfo San Jorge, between Cabo Dos Bahias and Cabo Tres Puntas, is 132 miles wide and recedes about 80 miles to the W. The N shore is generally steep and has a number of bays, islands, and shoals. On the S side of the bay there are a few small indentations that are completely open.

Isla Leones (45˚03'S., 65˚36'W.), off the NE point of the Golfo San Jorge, is 79m high, 2 miles long E and W, 1.5 miles wide, and is covered with brushwood. A reef, on which the sea always breaks, lies about 0.5 mile SE of the SE extremity of Peninsula Lanaud, the SE extremity of the island. The isthmus between the island and the peninsula is covered at half tide.

A rocky bank, with a depth of 18.3m, lies a little over 1.5 miles SW of the same point. The N shore of the island is fringed by rocks and shoals that extend 0.2 mile offshore.

Isla Sud Oeste is low and rocky and is connected to the SW side of Isla Leones by a reef which is covered at half tide.

Isla Buque, also low and rocky, is located close off the W side of Isla Leones.

A rock, with a depth of 6.7m, lies about 0.5 mile WSW of the N extremity of Isla Buque.

Canal Leones, between Isla Leones and the mainland, is about 0.4 mile wide. The depths in the fairway are about 12.8 to 33m. Strong currents, with velocities of 3 to 5 knots, exist in Canal Leones and cause overfalls and eddies off the various points.

Caution.—Large quantities of kelp may be encountered in Canal Leones.

7.27 Punta San Roque (45˚03'S., 65˚39'W.), on the mainland about 1 mile W of Isla Leones, is 39m high and rocky with a hummock. A black rock named Cabeza Negra, covered at HW, lies SW of the point about 183m.

While the flood current is running a vessel ought to give it a good berth, the set being toward it, or to the NE, with velocities of 3 to 5 knots.

Bahia Gil, between Punta San Roque and Peninsula San Antonio about 2 miles W, is about 1.2 miles wide and 1 mile long. Arrecife Bassin, in the middle of the bay, is rocky, black, about 0.2 mile long, E and W, and covered at HW. The reef always breaks.

Anchorage.—The best anchorage in Bahia Gil is in 14.6m, pebbles, 0.25 mile NW of the W extremity of Arrecife Bassin.

Winds from between ESE and S are reported to send in a heavy swell.

Bahia Gil is reported to be preferable to Bahia Huevo as an anchorage, the bottom being mud, the space less limited, and the access easier.

Peninsula San Antonio, 88m high, is joined to the mainland by a gravel isthmus about 0.3 mile long and 128m wide.

A steep-to islet lies near the W side of Cabo del Sud, the S extremity of Peninsula San Antonio.

A 9.6m shoal is reported to lie about 0.3 mile WSW of Cabo del Sud.

Bahia Huevo (45˚03'S., 65˚43'W.) lies between Peninsula San Antonio and Isla Valdes. The latter is nearly 1 mile long, NW and SE, nearly 0.5 mile wide, and 66m high.

The bay is sheltered from all but SE through W winds and is one of the best harbors on the coast. The entrance is E of Isla Valdes. Vessels can steer by eye, as there is no hidden danger.

The entrance is about 0.2 mile wide, with general depths of 14.6 and 16.5m; about 183m from the E extremity of Isla Valdes there is an 8.7m depth. South winds send a swell into the bay.

There is a small reef, which is covered at high tide, close-to and W of Cape Sur at the end of San Antonio Peninsula.

Tides—Currents.—The flood current sets through the harbor from W to E and SE with a velocity of about 1 knot. The ebb is scarcely felt.

Los Frailes, a group of five rocks, lie about 1.2 miles WSW of Isla Valdes. Three of the rocks show at HW, but all five show at LW. A 4.9m rocky patch lies about 0.9 mile NE of this group; it is very small and the sea does not break.

A rock, with 5m, lies about 0.8 mile W of the N extremity of Isla Valdes.

Anchorage.—The best anchorage in Bahia Huevo is in the center of the port in about 8.2m, pebbles and fine sand, with the N extremity of Isla Valdes bearing 262˚ and the SE point of the same island bearing about 167˚.

Due to the abrupt changes in the quality of the bottom, it is recommended that the anchorage be checked before anchoring.

7.28 Bahia Cayetano (45˚02'S., 65˚45'W.), 2 miles to the W of Bahia Huevo, is partially protected from S winds by Islas Cayetano, a group of reddish-color rocks which have a maximum height of 53m. The islands extend about 0.7 mile in an E and W direction.

The S entrance to the bay, between the easternmost of the Islas Cayetano and **Punta Guanacos** (45˚02'S., 65˚44'W.), is 0.33 mile in width and has depths of 14.6 to 20.1m. The entrance N of Islas Cayetano has a charted depth of 6.4m.

Isla Pan de Azucar, 2.25 miles to the SW of Islas Cayetano, is 54m high, conical, rocky, and steep.

It has a cairn on its summit, an islet off its N side, two islets off its W side, and two islets off its E side.

This island does not appear as a sugarloaf as its name would indicate.

The islet lying to the NW is very small and at HW only a small portion of it is visible. A reef which extends to the NW of this islet ends in a rock which uncovers.

North of the two E islets are four rocks which at extreme LW appear as two.

Islote Spur is a pointed white rock about 0.7 mile N of Isla Pan de Azucar. A reef, marked by kelp, extends about 183m E of the rock.

Anchorage.—Vessels can anchor in a depth of 6.4 to 8.2m, gravel, about 0.1 mile N of the E end of Catetano Island.

This anchorage is not sheltered and should only be used temporarily.

7.29 Puerto Melo (45˚02'S., 65˚51'W.), about 2.2 miles wide at the entrance, recedes about 2.2 miles and has a number of islands and islets in its entrance.

The W half of the bay is shallow and has many drying parts, but the E portion has depths of about 11 to 12.8m in the deepest part near the entrance. Local knowledge is essential.

A beacon stands on Punta Picachos, the S extremity of the peninsula that forms the E side of Puerto Melo. A beacon stands on the NE shore of the bay.

Tides—Currents.—Tidal currents off this part of the coast are strong, setting along the shore with velocities of 2 or 3 knots.

Off the projecting points and in confined passages the strength is, of course, increased and causes heavy tide rips when opposed to the wind.

Within Puerto Melo the flood current attains a velocity of about 0.5 knot, while the ebb current is scarcely perceptible.

Anchorage.—Anchorage can be taken in the middle of the entrance to Puerto Melo in about 11m, sand. The holding ground is good. W winds raise little sea.

7.30 Roca Racial, which shows only at very low tide and which seldom breaks, lies about 1.2 miles W of Isla Pan de Azucar.

Roca Bergara, a small drying rock which breaks at half tide, lies about 0.7 mile WNW of Roca Racial. About 0.1 mile ESE of Roca Bergara is a rock which does not uncover.

Roca Flora, which dries and which breaks at half tide, lies about 1.7 miles WSW of Isla Pan de Azucar.

Rocas San Pascual, two black rocks which seldom cover, lie nearly 4 miles W of Isla Pan De Azucar.

Islote Cangrejos, which lies about 0.7 mile N of Rocas San Pascual is a low black islet, circular in shape, about 60m in diameter and conspicuous.

A 0.4m rocky shoal, marked by kelp, lies about 1.2 miles WSW of Islote Cangrejos.

Between **Punta Castillos** (45˚03'S., 65˚56'W.), and Punta Tafor, about 17 miles to the W, there are various coves suitable only for small vessels. Several small islands lie W of Punta Castillos.

7.31 Isla Tova (45˚06'S., 66˚00'W.) is 50m high, covered with vegetation, and extends about 3 miles in a WNW and ESE direction. The SW shore is difficult to approach and off it are a number of island and shoals. A cairn beacon, about 1.8m high, stands close S of Punta Norte, the NW extremity of the island. The N shore is accessible and has two anchorages.

Roca Leon Marino, about 0.7 mile NE of Punta Norte, covers at HW, is dark, and the sea always breaks.

Isla Tovita lies close E of the SE extremity of Isla Tova. It extends about 1.2 miles in a NW and SE direction and is joined to Isla Tova at LW.

A 9.1m shoal lies about 1 mile NNE of the NE extremity of Isla Tovita. Isla Este lies about 0.1 mile E of the SE extremity of Isla Tovita and is only about 0.2 mile in extent.

Isla Gaviota, low and rocky, lies about 0.2 mile N of the NW end of Isla Tovita and is about 1 mile in length in a N and S direction. A drying reef connects the two islands.

About 0.7 mile E of Isla Este is a dangerous reef which covers at HW. Between this reef and the islet is a deep channel in which the current is strong. Breakers occur E of the reef.

Rocas Medrano, which lie about 3 miles SSE of Isla Este, uncover at low tide. The sea usually breaks heavily except in a calm. Roca Pinguino, which dries about 0.3m, lies 0.25 mile N of Punta Este, the NE extremity of Isla Tova.

Anchorage.—Anchorage can be taken in Bahia Del Fondeadero, located between Isla Gaviota and the NE shore of Isla Tova, in 11m, sand, good holding ground. The anchorage is protected from all winds except from the NNW, N, and NNE, but they do not raise heavy seas. The heaviest squalls are from the SW, which batter the N shore of Golfo San Jorge and causes a heavy surf to roll S into the anchorage.

A rock, awash, lies 2.25 miles WNW of Punta Norte. A sunken rock lies about 0.2 mile E of the above rock and another sunken rock lies about 0.1 mile to the W. Kelp marks the vicinity of these rocks. A rock, with 5.9m and marked by kelp, lies about 1 mile W of the rock awash.

7.32 Islote Gran Robredo, located about 2.5 miles SW of Isla Tova, is a rock with a reef lying off its NE extremity and a small island lying close off its S extremity. Islote Pequeno Robredo lies about 1 mile WNW of Islote Gran Robredo.

About 1 mile NE of Islote Pequeno Robredo is a drying rock. About 1 mile NE of Islote Pequeno Robredo is a rock with less than 1.8m. Numerous rocks and islets lie close to the SW side of Isla Tova. A drying rock lies about 3 miles W of Islote Pequeno Robredo.

Caution.—The area in the vicinity of **Punta Tafor** (45˚03'S., 66˚17'W.) is reported to not agree with the chart.

Islas Lobos, located about 1.8 miles SW of Tafor Point and extending to the SW, are of a dark color and are fringed with rocks.

7.33 Bahia Bustamante (45˚08'S., 66˚24'W.) lies between Punta Ezquerra and Punta Ulloa, the E extremity of Peninsula Gravina, 6.5 miles to the SW.

The land around the bay has a number of small hills which obscure the high pampa behind, the most conspicuous of which are Tetas De Pineda, two hills lying E and W of each other in latitude 45˚06'S, which can be easily recognized from S and SE; from the E they appear as a single hill.

The shore consists of rugged rock cliffs, interspersed by stony beaches.

The bay contains many islets, rocks, and shoals which are hazards to navigation.

Several conspicuous buildings are located close W of Punta Ulloa. A light is shown about 0.6 mile W of the point. A light is shown from the W shore of the bay about 3 miles WNW of the point.

Islas Viana (45˚11'S., 66˚24'W.), a group of islands lying 3.5 miles SE of Punta Ulloa. The N island is the largest and off its E side a reef projects about 0.4 mile to the E. The S island is the lowest and has three pointed black hillocks.

A beacon, 9m high on a black tripod, is shown from the S side of the N island. A sunken wreck lies about 0.6 mile SSE of the light structure.

Isla Cevallos, about 3 miles NNE of Islas Viana, is low, dark. and devoid of vegetation. The sea breaks heavily on it and it is difficult to recognize against the mainland.

About 0.7 mile NNW of the islet lies a rock, with a depth of less than 1.8m, located on the end of a rocky bank marked by kelp extending from the islet.

Roca Azopardo, a black and pointed rock located about 2 miles ENE of Islas Viana, uncovers at LW. The kelp on this rock is not usually visible, but the sea breaks over it except in calm weather.

Paso Sud, between Islas Viana and Peninsula Aristizabal, is the best approach to Bahia Bustamante as it is wide, clear, and straight and has depths of more than 11m. It is the only pass recommended at night.

Anchorage.—The holding ground is good everywhere in the bay, but the depths and bottom vary greatly.

The best anchorage is in about 9.1m, sand, shell and mud about 1.5 miles NW of Punta Ulloa. The anchorage is good in N and W winds which raise a slight sea. Winds from the SW and S bring in a heavy ground swell which place a strain on the anchor.

7.34 Cabo Aristizabal (45˚13'S., 66˚31'W.), the SE extremity of Peninsula Aristizabal, lies 5 miles SW of Punta Ulloa and appears yellowish. A light is shown from the cape.

From Cabo Aristizabal W about 8 miles to Isla Quintano the coast is low. About 4.3 miles W of the cape there is a group of rocks, one of which shows above-water, extending S from the shore for a distance of nearly 1 mile. They are marked by kelp.

Isla Quintano (45˚15'S., 66˚42'W.), located about 8 miles W of Aristizabal Point and 1.5 miles from the coast, is low and

of yellowish color, has a reef, upon which are two small islets extending 0.3 mile E from its S end.

A group of sunken rocks, which break at half tide, lie about 1 mile E of Isla Quintano and another rock, which is above-water, lies about 0.5 mile NNW of the same island. Passage N of the island is not recommended.

From Isla Quintano to Caleta Cordova, a distance of about 40 miles, the coast is cliffy.

An unmarked anchor lies about 11 miles to the S of Isla Quintano.

Bahia Solano (45˚39'S., 67˚16'W.) is about 10 miles wide N of Punta Novales. In the N and S parts of the bay, shoal depths of less than 5.5m extend about 2.2 miles offshore.

Falso Salamanca, located about 15 miles N of Punta Novales, is conical in shape.

When seen bearing less than 270˚, it appears as a perfect cone; when bearing more than 270˚, its summit begins to appear to lean to the N. When bearing more than 341˚, the peak is hidden by high tableland.

Pico Salamanca, located about 9 miles N of Punta Novales, is conical in shape. About halfway up is a yellowish horizontal stripe which makes it conspicuous.

Shoal depths extend 1.5 miles off Punta Novales. Restinga Novales, the outer portion of the shoal, uncovers at half tide.

7.35 Caleta Cordova (45˚46'S., 67˚20'W.), entered between Punta Novales and Punta Pando, is 2 miles wide and recedes about 1 mile. The holding ground in the cove is said to be good. An oil pipeline extends NNE from Punta Pando, the S entrance point of the cove. Its outer end, which is close N of the outer extremity of the reefs extending from the S shore, is marked by a concrete pillar.

Caleta Cordova Offshoew SMB Terminal, a red buoy, 11m in diameter, for crude oil-loading tankers, is moored 3 miles offshore and 1.75 miles E of Punta Pando. An area, 2 miles in radius, centered on the SBM, is restricted to tanker operations only. A berthing tanker drops its anchor, swings its stern to the W, and secures to the mooring buoys, 0.2 mile apart. The maximum size vessel permitted to berth is 100,000 dwt and can load up to a maximum draft of 29m. All operations take place during daylight hours. Regulations concerning loading procedure can be obtained from the pumping station.

Numerous structures of a petroleum facility stand on the point. On Cerro Loma Blanca, on the W side of the cove, there is a conspicuous white conical shape structure.

There is another loading installation 0.7 mile off the Astra leading light (45˚44.8'S., 67˚22.5'W.), in depth of 10.3m, where tankers load at anchor while secured to six mooring buoys.

Southeastern storms are dangerous and vessels may have to get underway.

From a position SE of Punta Novales (45 43'S.,67 20'W) the track leads SSW, passing ESE of Roca Extreme, a small detached reef which lies 3.25 miles NNE of the point. Course should then be adjusted to pick up to the alignment of Astra Light and Loma Blanca Light on 268 , leading to SBM Terminal.

Directions.—From a position SE of Punta Novales (45 43'S., 67 20'W) the track leads SSW, passing ESE of Roca Extreme, a small detached reef which lies 3.25 miles NNE of the point. Course should then be adjusted to pick up to the alignment of Astra Light and Loma Blanca Light on 268 , leading to SBM Terminal.

To reach the other loading anchorage, follow the range of Cordova Light and Novales Light bearing 353.5 .

Pilots.—Pilots are arranged through Puerto Comodoro Rivadavia.

Caleta Olivares (46˚46'S., 67˚21'W.) lies between Punta Pando and Cabo San Jorge, 1.5 miles SSW. Drying reefs, bordered by kelp, fringe Cabo San Jorge to distances of up to 0.7 mile. The coasts surrounding the cove are high and sheer except to the SW, where there is a small beach.

There are four mooring buoys located at the anchorage to secure stern lines to while loading at an offshore terminal, in a depth of 12.8m. All operations take place during daylight.

Directions.—From a position SE of Punta Novales, pass ESE of Roca Extreme and then ESE of Punta Pando, where the tanks and the towers of the oil refinery stand. Keeping clear of the SBM, adjust course to align with the range of Light No. 1 (45˚45.7'S., 67˚22.2'W.), on gray pillar 3m in height, in line with Light No. 2, located 225m further WNW, bearing 290.5 . Continue on this course until reaching the mooring berth.

Caution.—Two lost anchors and cables lie about 1 and 1.5 miles SE of Cabo San Jorge. There have been many reports of lost anchors, some with lengthy cables, in the offshore anchorage area, the positions of which are indicated by foul areas on the chart.

Restinga Ali, a reef, extends from the coast 3 miles SW of Punta San Jorge (45 47'S.,67 22'W); another reef, Restinga Sur, extends E from Punta Borja, 3.5 miles farther SW.

7.36 Puerto Comorodo Rivadavia (45˚52'S., 67˚28'W.) (World Port Index No. 13920) lies on the shores of an open bay roadstead between Restinga Ali and Punta Borja. Alongside berthing is only suitable for coasters; however, the port serves as a center for the oilfield in the area. There are three offshore loading facilities located within the formation of three bights between the drying reefs extending offshore. The northernmost bight is between Restinga Ali and Restinga del Medio. The middle bight is between Restinga del Medio and Restinga Coronel. The southernmost bight, between Restinga Coronel and Punta Borja, is used as the landing place. The shore of the bay is composed of low cliffs of regular height and is backed by hills scored by ravines.The port is open to NE and E winds with no protection. The climate is characterized by a windy season with dry weather and pleasant temperatures from November to April. Vessels should be prepared to leave the port when fresh easterlies occur.

Winds—Weather.—The port is open to NE and E winds with no protection. The climate is characterized by a windy season with dry weather and pleasant temperatures from November to April. Vessels should be prepared to leave the port when fresh easterlies occur.

The winter season is also windy, but with cold and dry weather accompanied by snow. Offshore winds prevail most of the time, particularly in the summer. These winds are often strong and gusty, raising quite a sea. Strong and gusty winds out of the SW to NW will make it impossible to moor in the harbor or to the oil loading platforms.

Comodoro Rivadavia

Tides—Currents.—The tidal currents are weak in the vicinity of the coast and run parallel to it. Outside, the currents attain a maximum velocity of 1.25 knots. The tidal range is between 2.2 to 5.9m.

Depths—Limitations.—A breakwater extends E from Punta Borja. Cargo is usually offloaded into lighters. A wharf is under construction alongside the breakwater. A large pontoon lies sunk about 41m off the end of the breakwater. The berths alongside the town pier are mostly for coasters.

There are piers on the N side with alongside depths up to 7.1m. However, vessels up to 46m in length can go alongside a section of the wharf with a 4.5m depth, but should not stay alongside overnight.

The port should be entered at HW during daylight hours only.

Pilotage.—Pilotage is compulsory and 24-hour advance notice is required. Contact can be made on VHF channels 16, 26, and 27 or RT(MF) 2082.5 kHz, call sign PLX. Pilots come from Puerto Madryn or Puerto Deseado.

Aspect.—The port can be identified by three hills separated by deep glens. Cerro Hermitte (45 49.6'S., 67 28.4'W) has a beacon on its summit and a steep face on the NE. A tank is visible 25 miles offshore from another summit that lies 1.7 miles W of Cerro Hermitte.

Directions.—The port can be approached directly from SW by keeping clear of Restinga Ali, Restinga Sur, Restinga del Medio, and Restinga Coronel.

Anchorage.—Vessels can anchor anywhere off the port in depths of 7.3 to 11m, sand and mud, good holding ground, except within the limits of the prohibited anchorage area.

Caution.—Sand waves have been reported about 2 miles ENE of the breakwater.

There are many foul berths due to the loss of anchors and the presence of cables in the vicinity of the offshore area and near the head of the oil pier.

Puerto Comodoro Rivadavia to Cabo Tres Puntas

7.37 Punta Marques (45˚57'S., 67˚32'W.), 50m high and easily identified by its sheer yellow cliffs, lies 6 miles SSW of Punta Borja. It is the E extremity of a rugged yellowish ridge which has a steep NE slope and rises to an elevation of 164m about 0.5 mile W of the point.

From Punta Marques to Bahia Sanguineto, 95 miles SE, a large part of the coast will afford shelter from the land winds, the holding ground being good and of mud, but the SE and E winds cause heavy seas.

Rada Tilly (45˚56'S., 67˚33'W.) is open to winds from the NE and SE quadrants, especially those from W which blow with considerable force. The ground swell from the SE enters the roadstead but is not severe.

Anchorage.-Anchorage can be taken about 0.7 mile N of Punta Marques in 9.1 to 12.8m, fine sand, good holding ground.

Caleta del Fondo, a slight indentation in the coast about 2 miles in extent, lies 7 miles S of Punta Marques. A beacon stands on the N entrance point. The cove is exposed to winds from the N to S through E.

Anchorage can be taken about 1 mile SE of the beacon in 14.6m, fine sand, good holding ground.

Caution.—An oil wellhead lies about 10 miles E of Punta Marques.

Caleta Olivia (46˚26'S., 67˚31'W.), 23 miles S of Caleta del Fondo, is formed by two reefs which enclose a well-protected beach and is a loading place for oil by pipeline. Tres Picos, about 8 miles NW and 5 miles inland, is conspicuous.

An SBM, at which tankers can load, is situated 1.5 miles NE of Olivia Light. Submarine pipelines are laid between the SBM and the shore.

The N offshore tanker berth lies 0.9 mile E of Olivia Light, and is marked by two pairs of leading lights.

The first pair are occasionally shown from the N side of the cove. The front light (No.1) is shown from a black concrete hut with a white top and a white diamond topmark marked with its number, and is 6m high. The rear light (No.2) is shown from a similar structure about 0.6 mile from the front light. The lights are in the line bearing 273˚, and lead into the berth.

The second pair, comprising Nos. 3 and 4 Lights, are shown on the S side of the cove, 0.8 mile SSE of Olivia Light, from structures similar to those of the first pair. They are in line bearing 217˚ and indicate the position at which the anchor should be let go. These lights are private and lit upon request. Manguera lighted beacon (metal framework tower, red rectangle and white band) is situated on the shore 160m NNW of lighted beacon No.3. The intersection of the N leading line and the alignment of this lighted beacon with lighted beacon No.4 indicates the seaward end of the oil pipeline, which is also marked by a small buoy.

The S offshore tanker berth lies about 1.1 miles ESE of Olivia Light, and is marked by three pairs of leading lights. There are six mooring buoys in its vicinity.

The first pair of leading lights is situated on the S side of the cove. The front light (No.5) is occasionally shown from a red square, metal framework tower with yellow bands and a white' hut at its base, 15m high, situated about 0.5 mile SE of Olivia Light-structure. The rear light (No.6) is occasionly shown from a white square metal framework tower with black bands and a white hut at its base, 10m high, situated 1 mile W of light-

structure No.5. The lights are in line bearing 271.5˚ and lead in to the S tanker berth.

The second pair of leading lights is situated 1.25 miles SSE of light No.5. The front light (No.7) is shown from a structure similar to that of light No.5, but is 39m high. The rear light (No.8) is shown from a structure similar to that of light No.6 and is situated about 0.5 mile SSW of the front light. These lights are in line bearing 209˚ and indicate the position where the anchor should be let go.

Light No.9 is occasionally shown from a red square, metal framework tower with white bands, IOm high, situated about 0.1 mile SW of light No.7. With light No.8 as its rear light, it forms the third pair of leading lights, which, when in line bearing 202˚, indicate the position of the ship's stern when moored over the outer end of the pipeline.

A radio mast, painted orange and white in bands, 54m high, stands 0.3 mile SSW of light No.4; red fixed obstruction lights are shown from it.

Directions.—If approaching the N offshore tanker berth, steer for lights Nos. 1 and 2 in line bearing 273˚, anchoring in a depth of 13.7 to 14.6m, sand, when Nos. lights 3 and 4 are in line. Then turn and secure the stern to the mooring buoys at the seaward end of the pipeline. If approaching the S offshore tanker berth, steer for lights Nos. 5 and 6 in line bearing 271.5˚, anchoring when lights Nos. 7 and 8 are in line, in a depth of 14.6 to 16.5m, fine sand. Then turn and secure the stern to the mooring buoys at the seaward end of the pipeline which is marked by Nos. 9 and 8 lights in line. The holding ground is good in both anchorages. Obstructions, consisting of lost anchors and cables, lie ; approximately 1 mile ESE, and 0.9 and 1 mile ENE, from i Olivia Light. The two latter obstructions are in close proximity to the N offshore tanker berth and could foul the anchors of ships using it.

7.38 From Caleta Olivia to Punta Murphy, 15 miles SE, the coast is high, steep, and rocky.

From **Punta Murphy** (46˚39'S., 67˚18'W.), the W extremity of Bahia Langara, to Punta Casamayor, about 20 miles SE, the coast is steep and inaccessible. At Punta Casamayor the land rises to steep yellow hills, known as Alturas De Espinosa, and for a distance of about 42 miles ESE, continues moderately high as far as Pan de Azucar near Cabo Tres Puntas.

There are two wrecks showing above the water in Bahia Langara and one off Punta Murphy which is completely exposed at low tide.

Fondeadero Mazarredo (47˚02'S., 66˚42'W.) is open to the N and E.

Anchorage can be taken in about 8 to 18.3m. Pico Colorado is one of two red hills on the W side of the harbor. It is the E most of the two and conspicuous, despite being lower than the nearby cliff.

Monte Loaysa, about 18 miles E of Fondeadero Mazarredo, projects above some cliffs and is conspicuous because it is sandy and has no vegetation.

Bahia Sanguineto (47˚06'S., 66˚06'W.) provides protection from S winds.

Between Bahia Sanguineto and Cabo Tres Puntas, 9 miles to the E, the coast is fringed by reefs and is inaccessible. The sea breaks on it heavily.

Cabo Tres Puntas to Puerto Deseado

7.39 Cabo Tres Puntas (47˚06'S., 65˚52'W.) may be recognized from seaward as the end of a long range of tableland trending N and S. The cape shows three distinct upright heads of a light-colored earthy cliff.

Off these heads, ledges of rock extend 0.75 mile seaward and over them the tidal currents, which run parallel to coast at rates of 1 to 2 knots, rush and ripple with violence.

Pande Azucar, 130m high and conspicuous because of its conical shape, lies about 4 miles W of the cape.

From Cabo Tres Puntas to Cabo Blanco, 8 miles to the SE, the coast is low, rocky, and fringed with kelp, with tableland inshore. The whitish aspect of the coast is broken at intervals by patches of trees and vegetation.

7.40 Cabo Blanco (47˚12'S., 65˚45'W.) is formed by three distinct masses of rugged rock, about 44m high and whitened by guano, which are connected to the mainland by a low, narrow isthmus and appear as islands when first sighted.

On each side of the isthmus is a small cove. A pole beacon stands on the S extremity of Cabo Blanco about 0.5 mile S of the light structure.

There are numerous rocks in the vicinity of the cape. One of the rocks dries and lies about 0.4 mile NE of the light structure.

Tides—Currents.—In the vicinity of Cabo Blanco, the tidal currents set along the coast with velocities of 1 to 2 knots. Between the banks the currents are less regular and produce breakers. Around Cabo Tres Puntas, the tidal currents run along the coast with velocities of 1 to 2 knots and also cause breakers.

From Cabo Blanco to Puerto Deseado, a distance of about 35 miles, the coast is low with deep water close-to.

About 4 miles SW of Punta Guzman, which is about 8 miles S of Cabo Blanco, is Falso Pico de los Rios, so called because it is sometimes confused with Pico de los Rios.

A shoal bank, with dangerous overfalls and a least depth of 10.3m, lies about 8 miles SE of Punta Guzman.

Pico de Los Rios, about 10 miles SW of Punta Guzman, is seen from seaward only when bearing between 250˚ and 300˚.

Within 3 miles of Rio Deseado the land becomes high and cliffy.

A shoal, with a depth of 9.1m, lies 5 miles offshore and 11 miles NE of Peninsula Foca, the N entrance point of Ria Deseado.

Aspect.—A black, triangular iron framework beacon with staff and globe top mark stands on the mainland about 2.7 miles N of Peninsula Foca. The beacon is 10.9m high and the upper section of the seaward side is faced with horizontal slats.

Roca Sorrel, which dries, lies about 2.7 miles NE of Peninsula Foca and the passage between Roca Sorrel and the coast should not be used.

Anchorage.—Caleta Cabo Blanco (Caleta Sur), on the S side of Cabo Blanco, is sheltered from winds from NE, through W, to SW.

The best anchorage is at the center of the cove in 10m, good sand bottom with the light on Cabo Blanco bearing 031˚ and the beacon bearing 090˚. Small vessels will find good shelter in the NE corner of the bay, close to the kelp.

Several shoal banks and reefs, with depths of as little as 0.9m and best seen on the area chart, lie up to 9 miles E and SE of Cabo Blanco.

Caution.—Vessels navigating in the vicinity of the cape should make allowance for the tidal currents, as they run with considerable force.

Breakers have been reported 12 miles ESE of Cabo Blanco and extensive, well-defined patches of discolored water have been seen in the vicinity.

Navigation is prohibited inside the area determined by the following points:

a. 47˚45'18.5"S, 65˚54'48.3"W.
b. 47˚45'19.8"S, 65˚54'47.2"W.
c. 47˚45'20.4"S, 65˚54'48.6"W.
d. 47˚45'19.3"S, 65˚54'49.8"W.

Puerto Deseado (47˚45'S., 65˚54'W.)

World Port Index No. 13930

7.41 Puerto Deseado is situated on the N side of the mouth of the Rio Deseado, which is 1.5 miles wide between Peninsula Foca and Restinga Chaffers.

Fish is processed and frozen here for export. Vessels moor starboard side-to using the port anchor. Best time for entering is on the ebb and sailing on the flood. Berthing is best within the hour of high tide. In some berths, large fenders are necessary as some portions of the wharf are built on rock which projects from its face in places.

Winds—Weather.—The prevailing winds are from the SW to NW. Sudden heavy gales appear to be prevalent, rising without warning.

The SW winds generally die out during the night, but the NW winds continue to blow for days. Southeast winds are uncommon and bring strong but short-lived gales.

When strong W winds blow, there may be dust storms which impede visibility; in such cases it is advisable to keep position by radar and stand off or anchor until the visibility improves.

The amount of rainfall is low, averaging 74 days per year.

Tides—Currents.—The tidal currents set in and out of the port with regularity. At neap tides the tidal current flows from 3 to 4 knots and at spring tides from 5 to 6 knots. The interval of slack water is only about 5 minutes.

Depths—Limitations.—The reported depth over the bar was 8.1m. The Fiscal Wharf, a dog-leg pier, with a total length of 275m, has a depth of 8.2m alongside. There is also a concrete wharf, 62m long, with 8.2m alongside. A new commercial pier has been established. It is made of reinforced concrete on metal columns and is 250m long. The port can accommodate a vessel with a maximum length of 160m.

Aspect.—Cerros Direccion, located about 5 miles to the NW of the entrance, are about 142 and 149m high and are conspicuous.

Roca El Torreon (El Torreon) stands on the S side of the entrance. It has the appearance of an isolated tower and is easily recognized from seaward.

Cerro Clayrac, about 1.5 miles W of Roca El Torreon, is 30m high and is visible from seaward.

Two conspicuous chimneys and a steeple are located in the town of Puerto Deseado. A radio tower, 50m high, stands N of the town.

Pilotage.—Pilotage is compulsory and should be requested at least 48 hours in advance, as pilots have to travel from Buenos Aires. Vessels coming from the N can arrange to board pilots off Puerto Madryn.

Anchorage.—Ships awaiting entry or berthing can anchor in 15m on the entrance range, about 1.7 miles SSE of Peninsula Foca. The recommended anchorage for waiting is about 1.5 miles further to the SE.

When waiting for a short period, a vessel may use the inner anchorage which is located about 0.4 mile W of Punta Cascajo in a depth of 11m.

Caution.—Do not confuse the portal cranes with the entrance beacons, which lead over the bar on a bearing of 283.75˚. The loss of an anchor with 50m of chain has been reported to lie 1.25 miles SE of Cavendish Point.

Puerto Deseado to Puerto San Julian

7.42 From **Punta Guanacos** (47˚48'S., 65˚53'W.), 3 miles S of Puerto Deseado, the coast trends S for 5.5 miles and then E for nearly 4 miles to Punta Norte. This stretch of coast is closely backed by high land and is bordered by kelp. Vessels should not approach the coast closer than 3 miles.

Isla Pinguino (47˚55'S., 65˚43'W.) is about 49m high. Its S side is steep and can be approached close-to. Between the island and the mainland there are several islets and numerous rocks. Many of the rocks are submerged at all stages of the tide and the S side of the islet is marked by a light.

Two shoal patches, with rocks on them, lie about 0.3 and 0.8 mile N of Isla Pinguino. There is a rock, awash at LW, which lies about 0.4 mile NE of the N extremity of the island.

A shoal, with a depth of 7.9m, lies about 2.2 miles N of Isla Pinguino. Overfalls extend about 2 miles N from the island.

Anchorage.—Anchorage can be taken off the NW side of the island in 11m, shells. Vessels should not remain in this anchorage at night, as NW winds are frequent and it is then difficult to leave. The anchorage should be approached with caution due to the strong tidal currents.

Vessels can anchor further N of the island with the light structure bearing 170˚, distance about 2.7 miles in 27m, pebbles and shells, good holding ground.

Care is necessary to avoid a 11.6m patch which was reported to lie about 2.2 miles N of the light.

7.43 **Bahia Oso Marino** (47˚56'S., 65˚46'W.) is 1.5 miles wide between Punta Norte and Punta Pozos, and recedes about 1.2 miles. It is one of the best anchorages on this coast. Punta Pozos is high and conspicuous. A reef extends about 0.6 mile SE. There are tide rips off the outer end of this reef.

Arrecife Mayo lies about 0.7 mile NNE of Punta Pozos. At low tide an area about 183m in extent uncovers and has the appearance of an islet surrounded by breakers. At high tide the sea seldom breaks over this reef. Two submerged rocks lie about 0.1 mile NE of the reef.

Two anchors, one with 247m and the other with 275m of chain, lie about 2 miles NE of Punta Pozos.

A shoal patch, with a depth of 7.8m, lies about 0.4 mile NE of Arrecife Mayo. Two rocks, which never break, lie 1 mile bearing 114˚ from Punta Norte. Between the rocks and the point there are several shoal patches.

At the N side of Isla Chata, the largest island between Isla Pinguino and Punta Norte, there is a wreck which is entirely uncovered at LW.

The best anchorage is in 12.8m, sand and mud, about halfway between Arrecife Mayo and Punta Azoparado, to the W.

The anchorage for small vessels is in 6m, close S of the line of Punta Pozos and Punta Azoparado.

With a fresh breeze from the N, it is advisable to anchor closer to Punta Norte. The anchorage is good, but is exposed to all but W winds and is subject to heavy seas.

Tides—Currents.—The tidal currents off the entrance are rapid and form strong tide rips even in a calm, while in a breeze they are very dangerous for vessels of any size. The flood sets to the NNE and has been observed to attain a velocity of 3 knots against a strong N wind.

The ebb sets nearly in the opposite direction with about the same velocity. Off Isla Pinguino the N current ceases about 4 hours after HW by the shore. The tidal currents set strongly onto Punta Pozos.

7.44 Bahia de los Nodales (48˚01'S., 65˚52'W.) is about 10 miles wide between Punta Pozos and Punta Medanosa and recedes about 5 miles.

With the exception of the NW portion of the bay, the shores are fouled by reefs and rocks.

These dangers project in places to about 1 mile off the N shore and 2.75 miles off the W and S shores. Many of the shallow patches are marked by kelp.

Punta Lobos, on the bay's N shore, is high with rock towers and is conspicuous. Between Punta Lobos and Punta Medanos Negros, about 3.7 miles SW, the shore of the bay recedes and forms an inner bay.

Arrecife Burgos, which is composed of a group of shoal patches, lies about 1.7 miles ESE of Punta Medanos Negros. Isla Guano lies on this reef. Shoal patches, with depths of less than 3.7m, lie up to 0.75 mile SE of the reef.

Reefs, on which Isla Schwars lies, extend 4 miles NE of Punta Medanosa; the N group is named Arrecife Schwars.

Tides—Currents.—Inside the bay the tidal currents run weak, but in the vicinity of Punta Lobos and N of Arrecife Schwars, as well as between the islands and rocks which compose it, the currents run with considerable force and produce breakers.

7.45 Punta Medanosa (48˚06'S., 65˚55'W.), the S point of Bahia de los Nodales, is high and surrounded by dangerous rocks and reefs, and on the shores to the S are many wrecks which may indicate that the current here sets toward the shore.

Isla Liebres (48˚06'S., 65˚54'W.) is a rocky islet lying close off the NE point of Punta Medanosa. Isla Shag, a whitish bare rock about 7m high, lies about 1 mile E of Punta Medanosa.

About 1 mile SW of the islet are three black rocks above-water.

The coast from Punta Medanosa to Cabo Guardian, a distance of about 22 miles to the SW, is foul and is for the greater part fringed with kelp. In places the foul ground extends offshore for distances of about 3 miles.

Bahia Desvelos (48˚19'S., 66˚16'W.) is about 7 miles wide between Cabo Guardian on the S and Islote Cabo, a reddish rock, 6m high, on the N. A reef, on which there are several rocks above-water, extends about 1 mile offshore at the center of the head of the bay.

Anchorage.—Anchorage can be taken in 18 to 21.9m, fine sand bottom, with Cabo Guardian Light bearing 225˚ and the rocks on the reef at the head of the bay bearing 320˚. During SW winds the sea sets in from SE.

Cabo Guardian (48˚21'S., 66˚20'W.), 10m high, is of a reddish-color and surrounded by reefs and rocks for a distance of about 3 miles to the E and 4.5 miles to the SE.

The shoal area around the cape is marked by kelp and usually breaks at low tide. Survival equipment is stowed at the light structure, a black square metal framework tower, 36m high, located on the SE side of the cape.

Roca Bellaco (48˚30'S., 66˚11'W.) dries at about 0.6m. It is of blackish color, pointed in form and about 32m in extent. At low tide and during ordinary weather, the rock has been seen from a distance of 10 miles. Tide rips extend SE of this rock; during strong winds tide rips also extend to the NW.

Frequent calms are experienced in this area and during such times the sea does not break over the rock at high tide. It is recommended that vessels pass E of this rock.

An area, with a depth of 10m, lies 5.25 miles W of Roca Bellaco and the existence of lesser depths is possible.

7.46 Bahia Laura (48˚23'S., 66˚25'W.) is 5 miles wide between Cabo Guardian and Punta Mercedes. On the NE extremity of Punta Mercedes there is a remarkable flat-topped rock of reddish color named Morro Campana. To the N of Morro Campana shoals extend off the W shore of the bay to a distance of about 0.7 mile.

Reefs which lie from 2.75 to 3.5 miles ESE of Morro Campagna are marked by kelp and the sea almost always breaks over them.

Anchorage can be taken in the NW part of the bay in depths of more than 9.1m. Temporary anchorage can be taken in 16m, sand and shell, about 0.4 mile E of Morro Campana.

From Punta Mercedes to Cabo Vigia, a distance of 20 miles, the land increases in height and the coast is safer, but shoals which seldom break and which are sometimes marked by kelp, extend about 3 miles E of Cabo Vigia, a low round point.

In advancing S the land still rises until it attains a height of over 183m, and is then remarkable for its horizontal outline.

Isla Chato and Isla Parajo, about 11 miles SW of Cabo Vigia, though low, are too near the land to be dangerous to vessels that keep a fair offing.

About 9 miles SSW of Isla Chato and off the high tableland of Cabo Danoso, a dangerous reef which breaks at LW and is marked by kelp projects 3 miles SE from the shore, but does not appear to be steep-to; then about 29 miles to Port San Julia there are no known dangers.

7.47 Roca Santa Cruz (48˚48'S., 66˚14'W.), a rocky shoal with a least depth of 4m, lies 18.5 miles S of Roca Bellaco. The

shoal extends about 39.6m in a NW to SE direction, and about 19.8m in a NE to SW direction.

It is steep-to on its W side, but there are depths of less than 18.3m as far as 183m E. Tide rips have been observed close SW of the shoals, and its position may also be indicated by herds of seals, which are usually to be found in its vicinity.

Tidal currents in the vicinity of this shoal run NE and SW, varying between 0.5 and 3 knots.

Cabo Danoso (48˚50'S., 67˚13'W.) is low and composed of shingle. Within it rises a tableland with some detached hills, which appear conical from some directions. A light is shown 2 miles N of the cape.

A radio tower, 110m high, painted in 0.3m wide white and orange stripes, stands 17 miles SW of Cabo Danoso. Lights are not shown from the tower.

Cabo Curioso (49˚11'S., 67˚36'W.), 25 miles SSW of Cabo Danoso, is formed by stratified cliffs, of which the lowers layers are darker in color than the upper layers. A light is shown from the cape. A reef fringes the cape and extends about 0.3 mile offshore.

Puerto San Julian (49˚19'S., 67˚42'W.)

World Port Index No. 13940

7.48 Puerto San Julian is a deep entrance of the sea opening up between Cape Curioso and Desengano Point, terminated by a wide sound which is almost completely dry at low tide.

This natural port can accommodate ships with a maximum draft of 9.1m.

Punta Desengano is about 30m high and is of a clear gray color. A rocky spit extends about 0.7 mile NE from the point and ends in several drying rocks.

Tides—Currents.—The port is well buoyed, however, vessels must wait for high tide to enter. The current can reach a speed of 3 knots and can cause a ship at anchor to drift towards the shore. It changes direction about 2 hours after HW and LW. At a position 2 miles E of Banco Ferreyra, this change occurs 1 hour after.

In the port the change occurs at about the same time that the tide changes. In the vicinity of the quay, the flood current runs from 30 minutes after LW until 15 minutes after HW.

The ebb runs parallel to the quay from 30 minutes after HW to 30 minutes after LW. There is no current at the quay from 10 to 30 minutes after HW.

Overfalls occur, especially at spring tides, in the vicinity of Punta Pena and on a reef NE of the town.

Depths—Limitations.—Banco Ferreyra, a part of which dries 3.3m, is composed of gravel and lies in the middle of the entrance. A channel exists on either side of the bank.

The channel on the N side has a depth of 1.2m. The channel from the bank up to the town is narrowed in places by shoals and banks and has a least depth of 3.6m.

Range lights and range beacons lead through the channels and up to the town.

There is a concrete quay, about 62m long, with dolphins which stand off each end. Depths of about 6.2m are available.

Aspect.—Monte Wood and Monte Sholl, both with flat summits about 4 miles NNW of San Julian and the radio tower at San Julian, are conspicuous. The 95m high radio tower has white and international orange stripes.

Pilotage.—Pilotage is compulsory and must be requested at least 48 hours in advance as they must travel from Buenos Aires. Vessels from N may arrange to board pilots off Puerto Madryn.

Anchorage.—The anchorage for large vessels is E of San Julian, in 7m, sand bottom, with Pueblo Beacon, located at the S part of the town, bearing 293˚ distance 0.3 mile. The current sometimes attains a velocity of 3 knots at this anchorage.

Vessels should not anchor off the lighter pier, W of Punta Pena, due to the strong tidal currents and eddies in that vicinity.

A wreck, hazardous to vessels anchoring E of San Julian, lies sunk about 0.4 mile 048˚ from Pueblo Beacon.

Caution.—Foul ground, consisting of an anchor and a fathom of chain, lies about 1.8 miles 126˚ from Cabo Curioso.

Puerto San Julian to Puerto Santa Cruz

7.49 Southward of Puerto San Julian the coast is low, covered by scrubby bushes, and fronted by a shingle beach.

About 10 or 12 miles S of the port a small flat hill is seen over the low coastal hills.

About 15 miles to the S of Punta Desengano the character of the coast changes with a range of steep white clay cliffs, the average height about 96m.

They rise like a wall from the sea, which at HW nearly washes their base, but at LW uncovers a large extent of shingle and mud beach.

Some short rocky ledges, which break at half tide, lie off several parts of this range, but none of them extends more than 1.5 miles from the shore. In latitude 49˚58'S, the range of steep white cliffs begins gradually to diminish in height, and 9 miles farther S ends in Punta Norte, 23m high, on the N side of the entrance to Puerto Santa Cruz.

Anchorage.—All this stretch of coast is clear and offers good anchorage during offshore winds, at 1 to 2 miles from the beach in 16 to 20m, good holding ground.

A shoal, which breaks, is reported to extend from the coast about 18 miles SSW of **Cabo San Francisco de Paula** (49˚45'S., 67˚43'W.).

A triangular iron framework beacon, with staff and ball topmark, stands almost 2 miles ENE of Punta Norte.

The upper section of this beacon is crossed by horizontal slats.

Puerto Santa Cruz (50˚01'S., 68˚31'W.)

World Port Index No. 13950

7.50 Puerto Santa Cruz is the estuary which receives the waters of Rio Santa Cruz and Rio Chico. It is about 16 miles long, NW to SE, and about 1 mile wide at the entrance, but broadens to a width of 2.5 to 3.5 miles inside.

The entrance lies between Punta Cascajo, on the N and Punta Entrada, on the S, and is easily recognized. From Punta Norte the cliffs gradually diminish in height until at Punta Cascajo they are only 9.1m high.

The E shore of the port is low, but the W shore from Monte Entrada to Morro Weddell is bordered by cliffs 108 to 126m high.

Tides—Currents.—South winds increase and N winds decrease the range of tide, a range of 13.7m having been recorded at Punta Reparo.

The rise of the tide is very rapid during the first 3 hours, during which time it attains 0.7 of the total rise. A similar phenomenon is observed during the ebb.

Outside the bar, the general direction of the tidal currents are NE on the flood tide and SW to S on the ebb tide. The ebb current from the entrance of the estuary runs SE over the bar.

In Canal Norte, the flood current sets NW toward the N shore, but nearer the entrance it sets towards the S shore.

In Canal Sur, the flood current runs N from 1.5 to 5 knots while the ebb current sets to the S at 1.25 to 4 knots.

In the entrance, the flood current attains a rate of 5 knots, which is reached 3 hours before the time of HW at Punta Quilla. The ebb current attains a rate of 6 knots, 3 hours after HW at Punta Quilla.

The best time for incoming vessels to cross the bar is about 1 hour before HW at Santa Cruz, which is about the time of HW at Punta Quilla. Thus they arrive off the town well after HW and ensure a good ebb tide for anchoring.

Departing vessels should cross the bar about half an hour before the time of HW at Punta Quiila.

Heavy tide rips occur at the junction of Canal Norte and Canal Sur.

It has been reported that one can feel the effect of the ebb tide as far as 20 miles off the port, which produces a drift of 3˚ to 5˚ to the shore.

Depths—Limitations.—About 4 to 5 miles E of Punta Entrada, a bar composed of mud and gravel obstructs the entrance to the river at low tide.

At LW, a part of the bank dries 0.6 to 1.8m, and at extreme LW other portions of the bank dry. Strong NE and SE winds cause heavy breakers on the bar.

Two ranges lead over the bar. However, considerable shoaling has taken place recently and they are no longer safe.

A quay is located at Punta Quilla about 2.2 miles within the entrance. The quay is 158m long and has dolphins off each end extending the length of the outer berth to 258m.

Vessels of 27,000 dwt, with drafts up to 9.5m, can be handled. The quay face is reported to be on an alignment of 307˚ to 127˚. The tidal current runs parallel.

The outer berth has depths of 10.3 to 11m alongside and the inner berth 8 to 9m. A catwalk connects the quay to the shore.

Vessels must use caution when entering due to the changing bar.

It has been reported that vessels entering the port by the S entrance should keep to the E of the range line when entering the bar.

Aspect.—Monte Entrada stands about 0.7 mile S of Punta Entrada, and the shoreline to the S of it is bordered by cliffs which reach a height of 153m.

When seen from the N, Monte Entrada appears as a conical peak; from the S it appears flat, falling sharply to the low land of the point; and from the SE it is confused with the cliffs.

A monument, consisting of a masonry tower surmounted with a cross, stands about 1 mile NW of Monte Entrada.

A 43m high, triangular radio tower with white and international orange stripes, 6m wide, stands at the town of Santa Cruz.

Pilotage.—Pilotage is compulsory for foreign vessels. Pilots should be requested 48 hours in advance. Vessels from the N can arrange to embark pilots at Puerto Madryn.

Anchorage.—Vessels waiting for favorable tide can anchor outside the bar in depths of 12 to 15m E of Monte Entrada and in 15 to 18m ESE of Monte Entrada.

Generally, the better holding ground is found nearer to the bar.

Anchorage can be taken between Puntas Entrada and Quilla and N of a line between the two points in 18.3 to 21.9m. This anchorage has good holding ground and is protected from S winds. Plenty of chain should be used.

The anchorage off the town is in 9.1 to 10.9m, good holding ground of sand, mud and gravel.

Caution.—A wreck is located about 1 mile E of Punta Entrada light structure, close NE of the 303˚ entrance range.

Dangerous wrecks lie about 2 miles and 6 miles ESE of Santa Cruz Light.

Caution is necessary when entering because the flood current sets strongly toward the shore. The banks in the entrance are subject to change.

Puerto Santa Cruz to Cabo Virgenes

7.51 Between Puerto Santa Cruz and Ria Coig, 58 miles to the SW, the coast consists of a succession of cliffs and low beaches. It is fronted by a ledge of rocks, which at half tide are either dry or shown by a line of breakers. They extend in some places 3 miles from the shore. This coast should not be approached within 5 miles.

A radio mast, 75m high, stands about 23 miles WSW of Santa Cruz Light and about 5 miles inland.

Ria Coig (50˚57'S., 69˚08'W.) is conspicuous, as it is the only part of the coast between Puerto Santa Cruz and Cabo Buen Tiempo which has the appearance of an islet.

It is a shoal basin, about 5 miles wide at HW, between Punta Norte and Punta Sur and is filled with drying banks. There is a narrow winding channel leading from the bar at the entrance with a least depth of 0.9m.

A shoal, with a least depth of 1.8m, lies 3.5 miles ESE of Punta Norte.

Anchorage can be taken in 11m with Punta Estancia, which is located about 3 miles SW of Punta Norte, bearing 305˚ distance 7 miles.

From Ria Coig to Cabo Buen Tiempo the coast is similar to that N of the inlet, but with fewer rocky ledges, and good anchorage may be obtained 3 to 6 miles offshore in depths of 9 to 25.6m, mud, with the water shoaling gradually to the shore.

The beach is of shingle to HW mark, and then of hard clay to just beyond the LW limit, where a green muddy bottom begins. The outer edge of the clay is bounded by a ledge of rocks on which the sea breaks, which extends for some distance parallel with the coast.

Monte Tigre, a 111m high hill with a distinctive summit, stands on the shore about 22 miles S of Ria Coig and is conspicuous.

7.52 Cabo Buen Tiempo (51˚33'S., 68˚57'W.) is the S extremity of the long range of clay cliffs, 91 to 122m high, that extends from Ria Coig.

The interior is formed by several open plains of undulating country, covered with grass and plants, but entirely destitute of trees.

From a distance, with the low land to the S below the horizon, the cape has been mistaken for Cabo Virgenes at the entrance of Estrecho De Magallanes, notwithstanding the difference of more than 45 miles in the latitude of the two headlands. In fine weather, Los Frailes and Los Conventos will assist in identifying the coast.

Cabo Buen Tiempo is reported to give a good radar return and the cape is marked by a light.

The loss of an anchor, with 192m of chain, lies about 5 miles NE of the light.

From Cabo Buen Tiempo the coast trends S for a distance of about 3 miles to the mouth of Rio Gallegos. South of the cape the cliffs, which border the shore, decrease in height and end in a 27m elevation, and from there a low tongue of gravel, with some stunted vegetation on it, extends about 0.6 mile SW and forms Punta Bustamante, 32m high, the N entrance point of Puerto Gallegos.

Puerto Gallegos (Rio Gallegos) (51˚37'S., 68˚58'W.)

World Port Index No. 13960

7.53 Puerto Gallegos (Rio Gallegos), which is located inside the mouth of the river, is entered between Punta Bustamante and Punta Loyola, 1.75 miles to the S. Punta Loyola is low.

For a distance of 3 miles W of Punta Bustamante the N shore of the port is a line of cliffs which terminates in a cone 53m high. To the W of the cone the N shore is low.

The S shore of the port is formed by low lands of gravel formations. To the W of Gallegos the shore is low, but the N shore is high.

Southwest of Punta Loyola and from 10 to 15 miles back from the coast there is a series of hills of volcanic origin which form three groups of hills named Los Frailes, Los Conventos, and Colinas del Norte, which are good landmarks for approaching the port.

Winds—Weather.—The climate is cold but healthy. It is dry in summer and damp, with occasional snow flurries in the spring, autumn, and winter. The temperature in the latter seasons varies from 0˚ to 16˚C. There are constant winds from SW and W.

Tides—Currents.—The tides are not greatly affected by the winds. The tidal currents run with velocities of 2 to 8 knots. In Canal Norte, when the banks are covered, the tidal currents set across the channel, but in Canal Sur they set directly through.

The tidal range has been reported to be as large as 12m during springs.

Depths—Limitations.—Extensive changes have taken place in depths W of Punta Loyola to the town. Mariners are advised to use extreme caution when in this area.

Canal Norte, with a least depth of 2m, is the channel presently in use to enter the harbor.

A large T-shaped coal and oil jetty is located on Punta Loyola. The jetty is 420m long and 20m wide.

Vessels up to 224m in length and a draft of up to 13.3m may berth alongside at certain stages of the tide, although there is only 6.1m of water nomally alongside.

All the piers in the town dry or nearly dry at LW and the bottom alongside is sandy mud with pebbles.

Small vessels lie alongside, aground, to work cargo. Larger vessels remain at the anchorage.

Aspect.—A cylindrical, checked tank, on a tripod, elevation 49.3m, stands on a hill about 2 miles S of the charted position of Poblacion Beacon, the E beacon in the port. A tank stands at a hospital about 0.9 mile bearing 242˚ from the beacon.

A black tank stands about 1.5 miles WNW of the beacon. A conspicuous chimney stands by a refrigeration plant about 0.5 mile SSW of the beacon. A radio tower, 60m high, with white and oange stripes 6m wide, stands in the town.

Pilotage.—Pilotage is compulsory. Advance arangements must be made. The pilot is normally embarked at Puerto Madryn.

Anchorage.—A good anchorage for awaiting tide is in about 10m on the range line for Canal Sur, with Banco light structure bearing 288˚. This anchorage is sheltered from W and SW winds. Vessels awaiting the tide to enter Canal Norte can anchor 5 miles E of Cabo Buen Tiempo in a depth of about 5.5m, sand, good holding ground, and sheltered from offshore winds.

Numerous anchors and lengths of chain have been lost inside and outside the harbor.

7.54 From Puerto Gallegos to Cabo Virgenes the coast trends SE for about 48 miles and at first is formed by a low shelving shore, invisible at a few miles seaward. After this low shore the cliffs again begin, and continue to Cabo Virgenes with only three breaks.

Anchorage.—There is good anchorage along the whole coast between Puerto Gallegos and Cabo Virgenes, 2 to 5 miles from the shore, but the bottom is of boulders of stones.

An anchorage, sheltered from winds between S and NW, can be taken in depths of 14 to 16m, about 2 miles from the coast, with Cabo Virgenes bearing 197˚.

Caution should be observed in approaching this anchorage on account of reported off-lying rocks.

A shoal, the position and existence of which is doubtful, was reported to lie with a depth of 3.7m about 7 miles E of **Condor Cliff** (52˚17'S., 68˚24'W.).

Caution.—Throughout the area S of Rio Gallegos numerous flares at oil wells may be seen; these are constantly changing.

Table of Contents